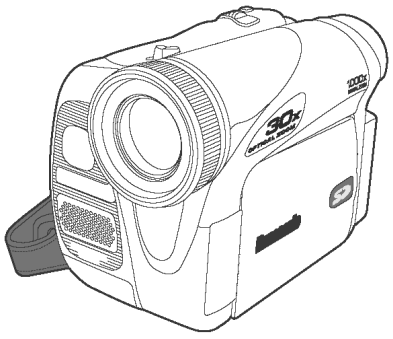
ORDER NO. MKE0501401C1
B21

Service Manual

Digital Video Camcorder



PbF
Solder Lead free

PV-GS19P
PV-GS31P
PV-GS32P
PV-GS35P
PV-GS19PC
PV-GS31PC
PV-GS34PC
PV-GS35PC

Colours

(S).....Silver Type

ITEM	SPECIFICATION	1	2	3	4	5
Power	Digital Camcorder: Power Source: DC 7.2/7.9 V Power Consumption: 4.5 W (Recording) AC Adaptor: Power Source: AC 110-240 V, 50/60 Hz Power Consumption: 19 W DC Output: DC 7.9 V, 1.4 A (Camcorder Operation) DC 8.4 V, 0.65 A (Battery Charging)	○	○	○	○	○
Recording Format	Mini DV (Consumer-use Digital Video SD Format)	○	○	○	○	○
Tape Used	6.35 mm digital video tape	○	○	○	○	○
Recording/ Playback Time	SP: 80 min.; LP: 120 min. (with DVM80)	○	○	○	○	○
Video Recording System	Digital Component	○	○	○	○	○
Television System	EIA Standard: 525 lines, 60 fields NTSC color signal	○	○	○	○	○
Audio Recording System	PCM Digital Recording 16 bit (48 kHz/2ch), 12 bit (32 kHz/4ch)	○	○	○	○	○
Image Sensor	1/6-inch CCD Image Sensor	○	○	○	○	○
Lens	Auto Iris, F1.8, Focal length; 2.1 mm - 50.4 mm 1.9 mm - 49.4 mm 1.9 mm - 53.2 mm 1.9 mm - 57 mm Macro (Full Range AF)	○ — — — ○	○ — ○ — ○	○ — — ○ ○	○ — — — ○	○ — — ○ ○
Filter Diameter	30.5 mm	○	○	○	○	○
Zoom	24:1 Power Zoom 26:1 Power Zoom 28:1 Power Zoom 30:1 Power Zoom	○ — — —	— ○ — —	— — ○ —	— — — ○	— — — ○
Monitor	2.5-inch Liquid Crystal Display	○	○	○	○	○
Viewfinder	Electronic Viewfinder Color Electronic Viewfinder	○ —	— ○	— ○	— ○	— ○
Microphone	Stereo	○	○	○	○	○

ITEM	SPECIFICATION	1	2	3	4	5
Speaker	1 round speaker 20 mm	○	○	○	○	○
Standard Illumination	1,400 lx	○	○	○	○	○
Minimum Required Illumination	2 lx (MagicPix Mode)	○	○	○	○	○
Output Level	Video Output Level: 1.0 Vp-p, 75 ohm S-Video Output Level: Y Output: 1.0 Vp-p, 75 ohm C Output: 0.286 Vp-p, 75 ohm Audio Output Level (Line): 316 mV, 600 ohm	○ — — ○	○ — — ○	○ — — ○	○ — — ○	○ ○ ○ ○
Mic Input	Mic sensitivity -50 dB (0 dB=1 V/Pa, 1 kHz) (Stereo mini jack)	—	—	—	○	○
USB	Card reader/writer function, USB 2.0 compliant (HI-Speed) (Full-Speed) No copyright protection support	○	○	○	○	○
Digital Interface	DV Input/Output Jack (IEEE1394, 4-pin)	○	○	○	○	○
Card Memory Functions	Recording Media: SD Memory Card (8 MB/16 MB/32 MB/64 MB/128 MB/256 MB/ 512 MB/1 GB (Maximum)) Still picture recording file format: JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding Still Image Size: 640 X 480 pixels (VGA)	○	○	○	○	○
WEB Camera	Compression: Motion JPEG Image Size: 320 X 240 pixels (QVGA)	○	○	○	○	○
Operating Condition	0 °C-40 °C (32 °F-104 °F) (Temperature) 10 %-80 % (Humidity)	○	○	○	○	○
Weight	Digital Camcorder: 0.41 kg (0.90 lbs.) (without Battery and DV cassette) AC Adaptor: 0.11 kg (0.24 lbs.)	○	○	○	○	○
Dimensions	Digital Camcorder: 63.5 mm x 81 mm x 114 mm (W x H x D) (2-1/2 inch x 3-1/4 inch x 4-1/2 inch) (W x H x D) AC Adaptor: 61 mm x 32 mm x 91 mm (W x H x D) (2-6/16 inch x 1-4/16 inch x 3-9/16 inch) (W x H x D)	○	○	○	○	○
Solder	**This model uses lead free solder (PbF).**	○	○	○	○	○

1. PV-GS19P/ PV-GS19PC
2. PV-GS31P/ PV-GS31PC
3. PV-GS32P
3. PV-GS34PC
4. PV-GS35P/ PV-GS35PC

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

Panasonic®

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

Page

1 SAFETY PRECAUTIONS ... 3
2 PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES ... 4
3 ABOUT LEAD FREE SOLDER (PbF) ... 5
4 HOW TO REPLACE THE LITHIUM BATTERY ... 6
5 HOW TO RECYCLE THE LITHIUM BATTERY ... 7
6 SERVICE NOTES (PLEASE READ) ... 8
6.1. SERVICE NOTES ... 8
7 DISASSEMBLY ASSEMBLY PROCEDURES ... 25
7.1. CABINET SECTION ... 25
7.2. MECHANISM SECTION ... 44
8 ADJUSTMENT PROCEDURES ... 48
8.1. SERVICE FIXTURES & TOOLS ... 48
8.2. MECHANICAL ADJUSTMENT ... 50
8.3. ELECTRICAL ADJUSTMENT ... 51
9 SCHEMATIC DIAGRAMS ... 57
9.1. SCHEMATIC DIAGRAM & CIRCUIT BOARD LAYOUT NOTES ... 57
9.2. MAIN SCHEMATIC DIAGRAMS ... 58
9.3. FRONT SCHEMATIC DIAGRAM ... 73
9.4. JACK SCHEMATIC DIAGRAM ... 74
9.5. LCD BACKLIGHT SCHEMATIC DIAGRAM ... 75
9.6. EVF BACKLIGHT / CASSETTE COVER SCHEMATIC DIAGRAMS ... 76

Page

9.7. CCD / SIDE CASE R / LCD SW SCHEMATIC DIAGRAMS ... 77
9.8. INTERCONNECTION SCHEMATIC DIAGRAM ... 78
9.9. VOLTAGE CHART ... 79
10 CIRCUIT BOARD LAYOUT ... 83
10.1. MAIN C.B.A. ... 83
10.2. FRONT C.B.A. ... 85
10.3. JACK C.B.A. ... 86
10.4. LCD BACKLIGHT C.B.A. ... 87
11 BLOCK DIAGRAMS ... 89
12 EXPLODED VIEWS ... 101
12.1. MAIN PARTS SECTION ... 101
12.2. FRONT AND BOTTOM CASE SECTION ... 102
12.3. SIDE CASE R AND LCD SECTION ... 103
12.4. CCD AND LENS SECTION ... 104
12.5. EVF SECTION ... 105
12.6. MECHANISM SECTION ... 106
12.7. PACKING PARTS AND ACCESSORIES SECTION ... 107
13 REPLACEMENT PARTS LISTS ... 108
13.1. REPLACEMENT NOTES ... 108
13.2. MECHANICAL REPLACEMENT PARTS LIST ... 109
13.3. ELECTRICAL REPLACEMENT PARTS LIST ... 110

1 SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. **IMPORTANT SAFETY NOTICE**

   There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 5.2 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

LEAKAGE CURRENT HOT CHECK

(See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect "A" to exposed metallic part on the set. And connect "B" to a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.25 V RMS.

A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

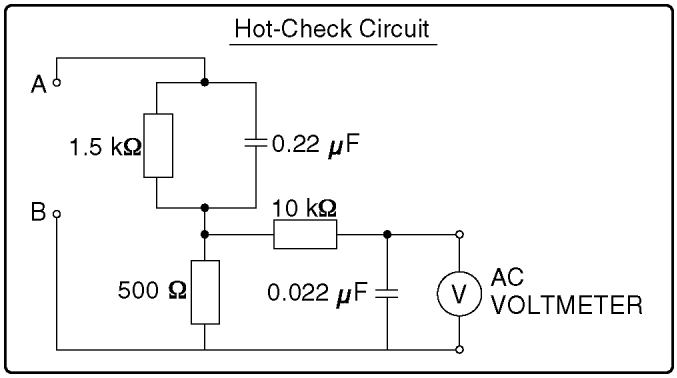


Figure. 1

2 PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   CAUTION :

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

3 ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)

Printed case

CAUTION:

- Pb free solder has a higher melting point than standard solder;
  Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
  Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
  In case of using high temperature soldering iron, please be carefull not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.
  When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
  and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

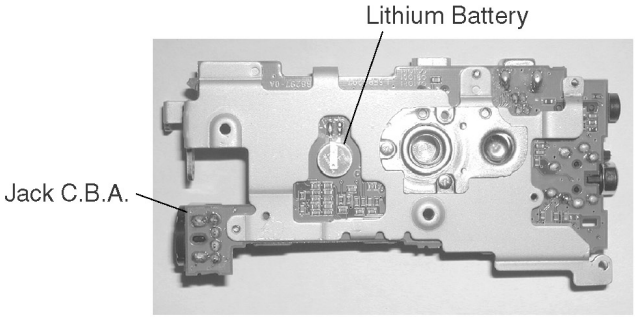
Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

4 HOW TO REPLACE THE LITHIUM BATTERY

Remove the Jack C.B.A. (Refer to “DISASSEMBLY ASSEMBLY PROCEDURES.”)

Unsolder the Lithium Battery “ML-621SF9DE” and then replace the new one.



Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

CAUTION - The battery used in this device may present a risk of fire or chemical burn if mistreated.
Do not recharge, disassemble, heat above 100 °C (212 °F), or incinerate.
Replace battery with Panasonic part number ML-621SF9DE only.
Use of another battery may present a risk of fire or explosion.
Dispose of used battery promptly. Keep away from children.
Do not disassemble and do not dispose of in fire.

NOTE:

This Lithium battery is a critical component. (Type No.: ML-621SF9DE Manufactured by Panasonic.)

It must never be subjected to excessive heat or discharge.

It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacture.

They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose.

It should be disposed of in waste products destined for burial rather than incineration.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's instructions.

PRECAUTION

Le fait de remplacer incorrectement la pile peut présenter des risques d'explosion.
Remplacer la pile uniquement par une pile identique ou de type équivalent recommandée par le fabricant. Se débarrasser des piles usagées conformément aux instructions du fabricant.

VORSICHT

Bei einer falsch eingesetzten Batterie besteht Explosionsgefahr. Nur mit einer vom Hersteller empfohlenen Batterie vom gleichen Typ ersetzen.
Verbrauchte Batterien beim Fachhändler oder einer Sammelstelle für Sonderstoffe abliefern.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning má kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

5 HOW TO RECYCLE THE LITHIUM BATTERY

U.S.A. CONSUMERS: ATTENTION:

A lithium ion/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

ATTENTION:

A lithium ion/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

6 SERVICE NOTES (PLEASE READ)

6.1. SERVICE NOTES

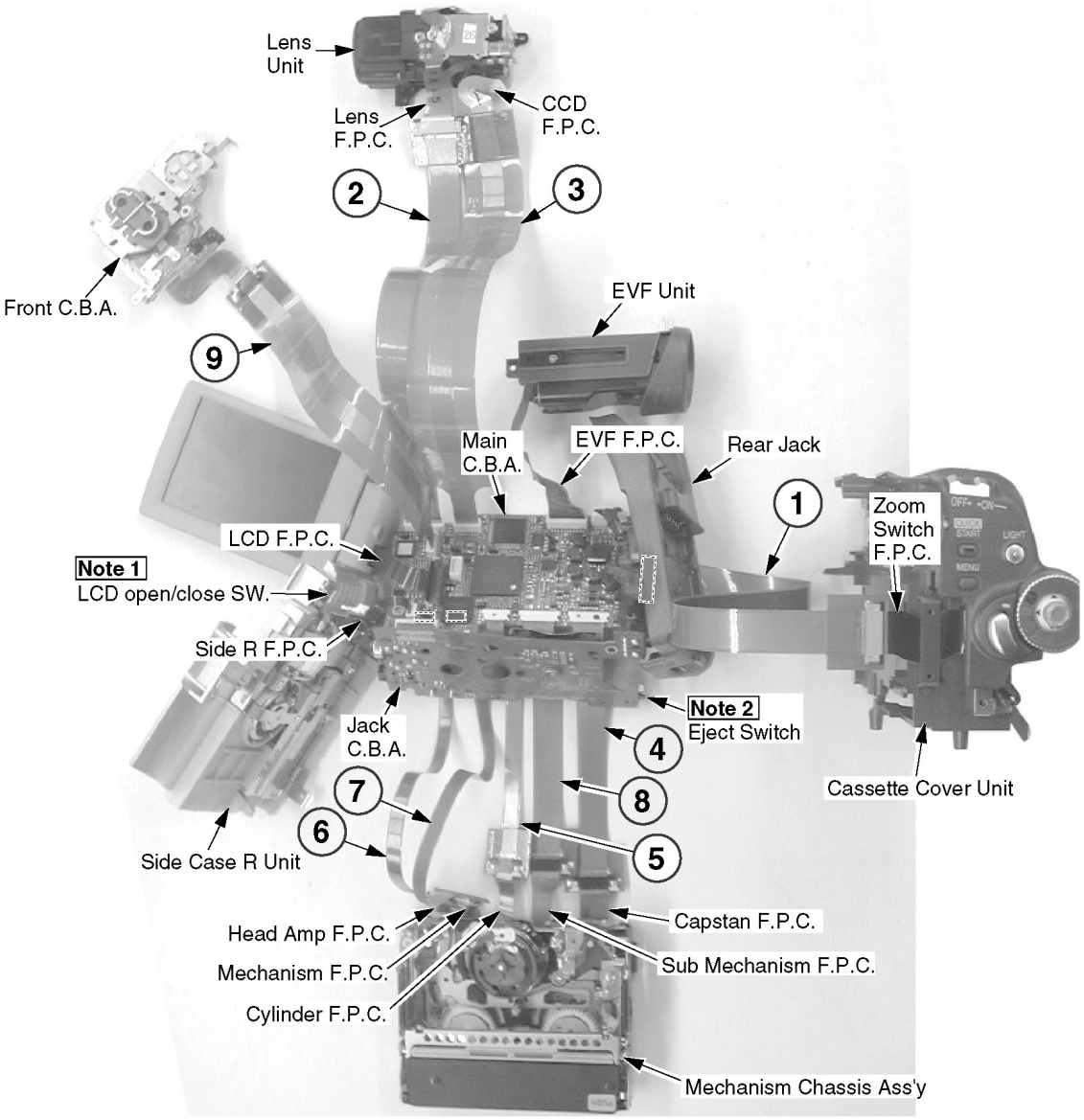
6.1.1. EXTENSION CABLES FOR SERVICE POSITION

Using the following Extension Cables, place the unit as shown for check and service.

NO.	PART NUMBER	PART NAME	CONNECTION
①	VUVS0012	22Pin Extension Cable	FP10 on Main C.B.A. ~ Zoom Switch F.P.C. of Cassette Cover Unit
②	VUVS0012	22Pin Extension Cable	FP701 on Main C.B.A. ~ Lens F.P.C. on Lens Unit
③	VFKW0124A	14Pin Extension Cable	FP301 on Main C.B.A. ~ CCD F.P.C. on Lens Unit
④	LSUA0017	18Pin Extension Cable	FP4 on Main C.B.A. ~ Capstan F.P.C. on Mechanism Chassis Ass'y
⑤	LSUA0016	10Pin Extension Cable	FP3 on Main C.B.A. ~ Cylinder F.P.C. on Mechanism Chassis Ass'y
⑥	LSUA0019	8Pin Extension Cable	FP5 on Main C.B.A. ~ Head Amp F.P.C. on Mechanism Chassis Ass'y
⑦	LSUA0019	8Pin Extension Cable	FP1 on Main C.B.A. ~ Mechanism F.P.C. on Mechanism Chassis Ass'y
⑧	LSUA0017	18Pin Extension Cable	FP2 on Main C.B.A. ~ Sub Mechanism F.P.C. on Mechanism Chassis Ass'y
⑨	VUVS0007	12Pin Extension Cable	FP6 on Main C.B.A. ~ Front F.P.C. of Front C.B.A.

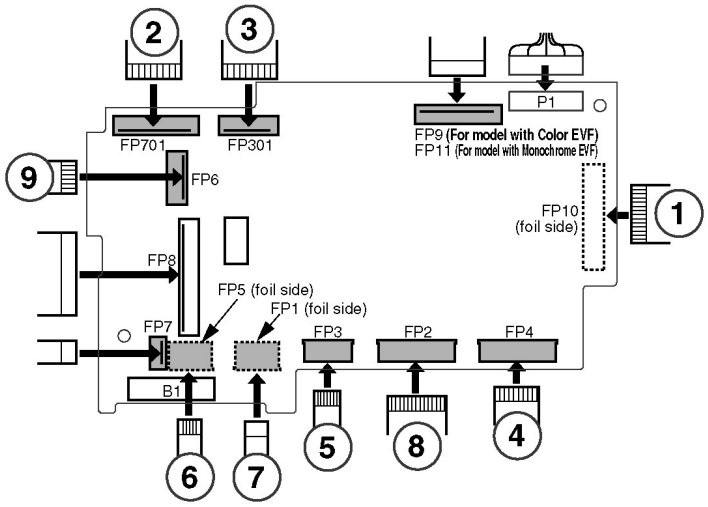
Note :

1. The LCD open/close SW. is for changing between LCD Display or EVF Display. When turning on EVF Display, place some paper or tape, etc. on LCD open/close SW. so that this SW. stays ON.
2. To eject the Mechanism, hold down the Eject Switch on the Jack C.B.A. for a short time.
3. Use a grounded ESD wrist strap while disassembling the Lens portion.
4. Connect the F.P.C.s to the connectors, verifying the direction of F.P.C as shown.
5. Use extreme care when unplugging or plugging in connectors.



Non ZIF connectors are on the Main C.B.A. as shown in gray.

Direction of F.P.C.s connection



Main C.B.A. (component side)

Fig. 1

6.1.2. SERVICE MODE

6.1.2.1. ERROR DISPLAY

"PUSH THE RESET SWITCH" is displayed automatically on the EVF or the LCD Monitor when an undesirable condition has occurred.

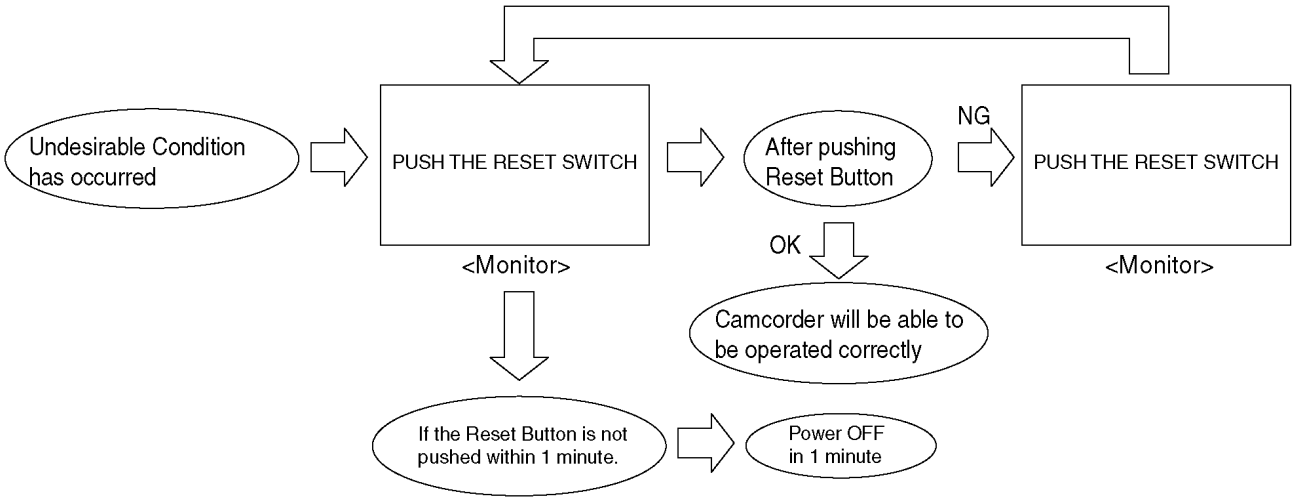

Undesirable Condition has occurred
PUSH THE RESET SWITCH
<Monitor>
After pushing Reset Button
NG
PUSH THE RESET SWITCH
<Monitor>
OK
Camcorder will be able to be operated correctly
If the Reset Button is not pushed within 1 minute.
Power OFF in 1 minute

Fig. 2

Note:

When "PUSH THE RESET SWITCH" is displayed repeatedly, service is required. Check the Error Code which is listed in the Service Menu.

6.1.2.2. SERVICE MENU

When abnormal detection contents are confirmed, do the following operation. Automatic diagnosis cord will be displayed. (Service menu)

To enter the Service Menu

Push the [QUICK START], [JOYSTICK CONTROL LEFT] and [PHOTO SHOT] simultaneously for 3 seconds (with no SD Card inserted).

Note:

If a tape or SD Card is inserted, the above operation will not work.

This operation displays the following Service Menu items.

- *1 ... Cylinder elapsed time clear.

  After replacing the Cylinder Unit, clear the Cylinder elapsed time to 0.

  Set to Service Menu.

  Press the [JOYSTICK CONTROL UP/DOWN] to select item [8].

  Press the [JOYSTICK CONTROL RIGHT] to display [NO/YES] screen.

  Press the [JOYSTICK CONTROL UP/DOWN] to select [YES].

  Press the [JOYSTICK CONTROL CENTER] button.

- *2 ... Cylinder elapsed time

  This item displays the Cylinder elapsed time (in Base 16).

  Set to Service Menu.

  Press the [JOYSTICK CONTROL UP/DOWN] to select item [3].

  Press the [JOYSTICK CONTROL RIGHT] to display [OFF/ON] screen.

  Press the [JOYSTICK CONTROL UP/DOWN] to select [ON].

  Press the [JOYSTICK CONTROL CENTER] button.

Calculation method of the Cylinder elapsed time:

(For example) If "0001234F" is displayed, 0001234F (in Base 16) = 74574 (in Base 10)

74574 x 4.3 (seconds) = 320672.5 (seconds)
fixed value

320672.5 / 3600 (seconds) = 89.1 (hours)

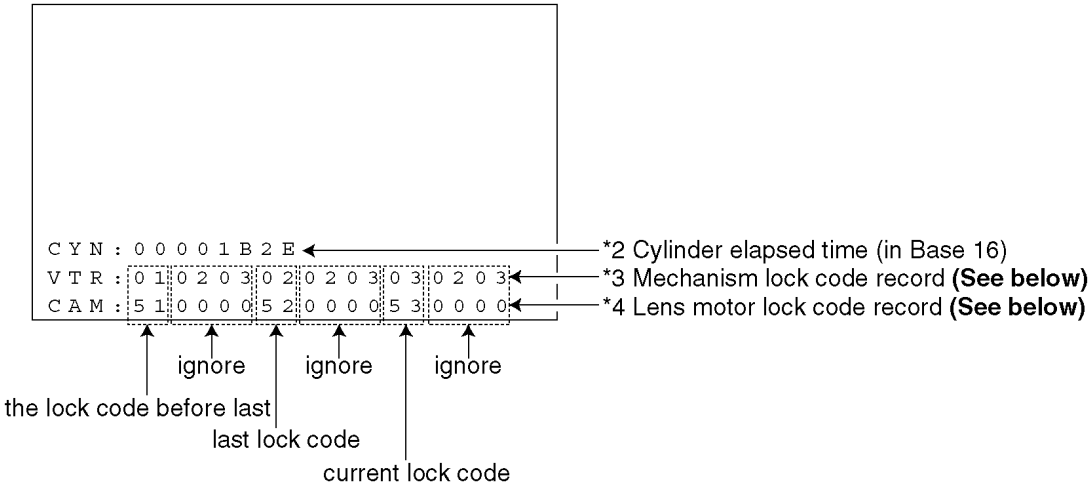
- *3 ... Mechanism lock code record

The current lock code, the last lock code and the lock code before last are displayed in the Item [3] screen.

- *4 ... Lens motor lock code record

The current lock code, the last lock code and the lock code before last are displayed in the Item [3] screen.

Cylinder elapsed time and lock code (Item [3] screen)


CYN:00001B2E
VTR:01 02 03 02 02 03 03 02 03
CAM:51 00 00 52 00 00 53 00 00
*2 Cylinder elapsed time (in Base 16)
*3 Mechanism lock code record (See below)
*4 Lens motor lock code record (See below)
ignore
ignore
ignore
the lock code before last
last lock code
current lock code

Mechanism & Lens motor lock code

DISPLAY	Explanation of cause
01	T Reel Lock
02	S Reel Lock
03	Unloading Lock
04	Loading Lock
05	Cylinder Lock
51	Zoom Motor Lock
52	Focus Motor Lock

Fig. 3

To exit the Service Menu

Unplug the AC Cord.

CLEAR METHOD

If a Card or Tape is inserted, remove before Service Mode operation.

To place the mode dial of this machine into PC connection mode, push the [QUICK START], [JOYSTICK CONTROL LEFT] and [RECORDING START/STOP] simultaneously for 3 seconds.

Note:

Only perform items 3 and 8 of items 1~8 in the Service Menu.

6.1.3. REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (Zero Insertion Force) CONNECTOR

Removal/Installation of F.P.C. from the Non ZIF (Zero Insertion Force) connector:

1. The Non ZIF connectors and the ZIF connectors are used on the unit. And there are 2 types (Type A, Type B) of Non ZIF connectors.
2. To remove the F.P.C. from the Non ZIF connector, use the Plier for Non ZIF Connector (LSVQ0028) to pull out the F.P.C. as shown. The same Plier for Non ZIF Connector (LSVQ0028) should also be used to install the F.P.C. to the Non ZIF Connector.

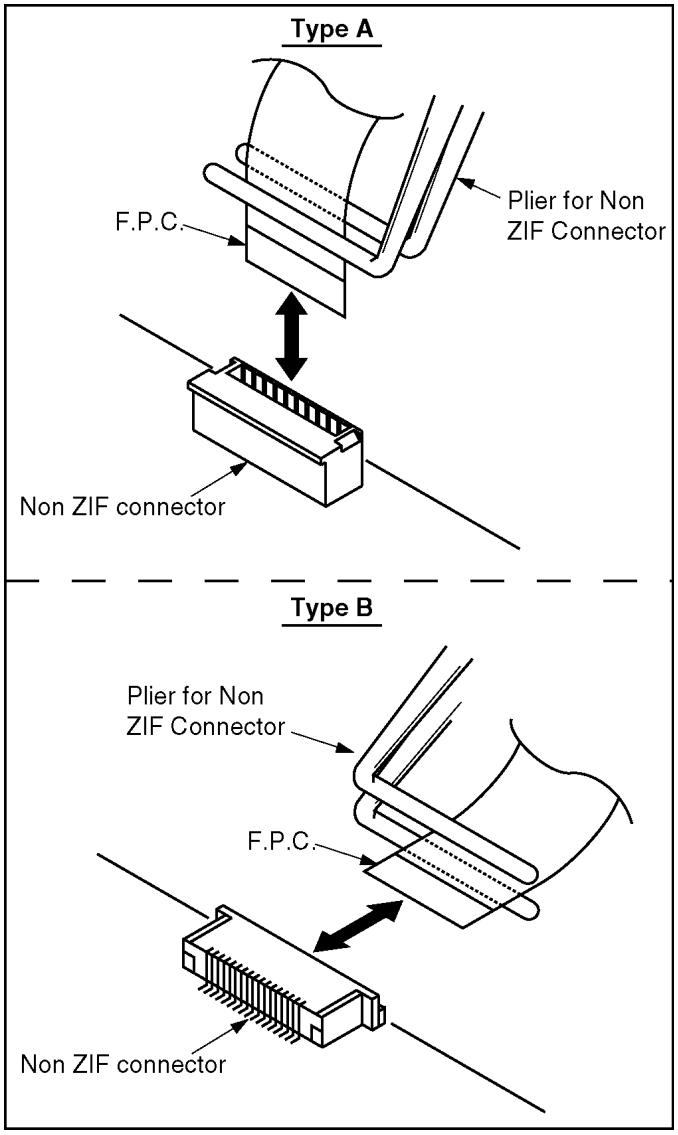


Fig. 4-1

3. Connect the F.P.C.s to the Non ZIF connectors, verifying the direction of F.P.C as shown.

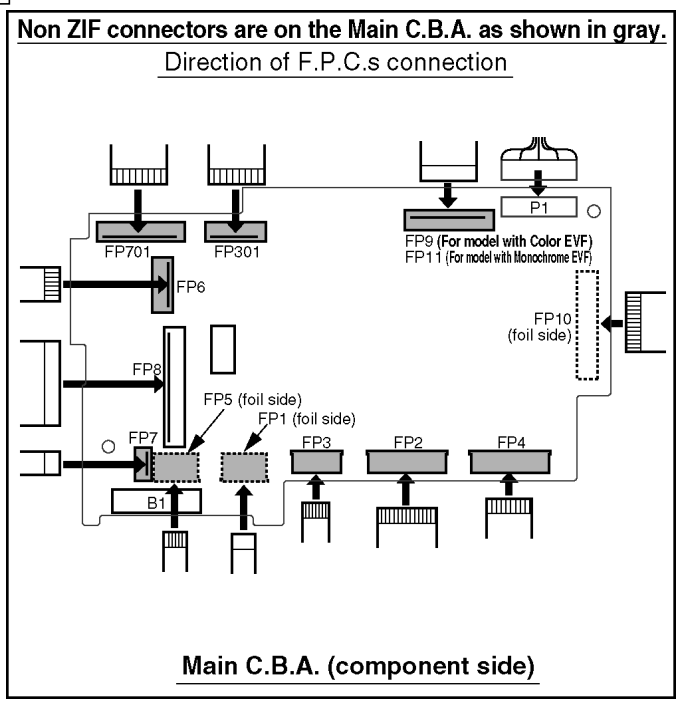


Fig. 4-2

6.1.4. METHOD FOR LOADING/UNLOADING OF MECHANISM

CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue to apply DC Power.

Apply +3 VDC Power Supply to the Loading Motor terminals.

Loading:

DC (-) to Portion "a," DC (+) to Portion "b"

Unloading:

DC (+) to Portion "a," DC (-) to Portion "b"

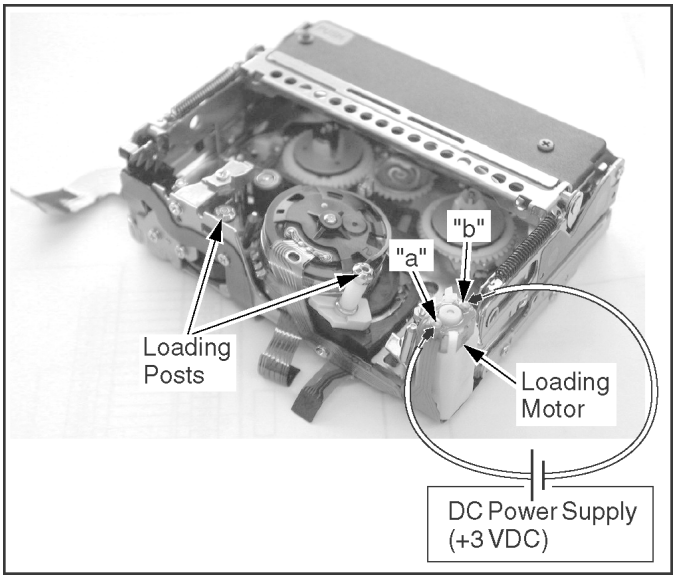


Fig. 5

6.1.5. EEPROM DATA

CAUTION:

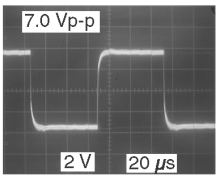
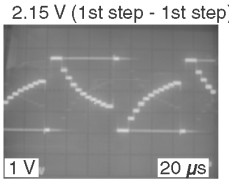
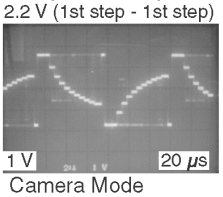
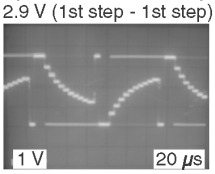
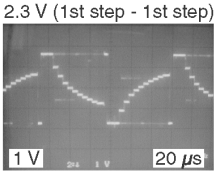
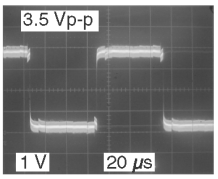
Be sure to save the EEPROM data using PC-EVR Adjustment Program before service and adjustment in order to make sure to avoid an accidental data loss, etc. using PC-EVR Adjustment Program by first.

EEPROM IC

C.B.A.	EEPROM IC Ref. No.
Main C.B.A.	IC6002

6.1.6. SIGNAL DESCRIPTION ON INTERFACE BOARD FOR ELECTRICAL ADJUSTMENT (LSUP0007)

A signal check can be performed using the Interface Board.

Pin No.	Signal Name	Description	Waveforms
TP101	EEPROM DAT	Not used	----------
TP102	EEPROM CLK	Not used	----------
TP103	EEPROM VDD	Not used	----------
TP104	-----	Not used	----------
TP105	EVF CR	Not used	----------
TP106	EVF CB	Not used	----------
TP107	MON PLL	Not used	----------
TP108	MON VCOM	To monitor LCD VCOM signal at Pin 10 of IC8001 on LCD C.B.A. This test point is used for "EVF Horizontal free running adjustment" and "LCD VCOM level adjustment."	 Camera Mode (Built in 10 step)
TP109	V850 VDD	Not used	----------
TP110	V850 VPP	Not used	----------
TP111	V850 SBO	Not used	----------
TP112	V850 SBI	Not used	----------
TP113	V850 SCK	Not used	----------
TP114*	M103 MMOD0	**(For model with Color EVF)** To monitor EVF red signal at Pin 22 of IC8001 on Main C.B.A. This test point is used for "EVF Sub Bright adjustment."	2.15 V (1st step - 1st step)  Camera Mode (Built in 10 step)
TP115*	M103 MMOD1	**(For model with Color EVF)** To monitor EVF green signal at Pin 20 of IC8001 on Main C.B.A. **(For model with Monochrome EVF)** To monitor EVF luminance at Pin 20 of IC8001 on Main C.B.A. This test point is used for "EVF Sub Bright adjustment" and "EVF Contrast/Bright adjustment."	**(Color EVF)** 2.2 V (1st step - 1st step)  Camera Mode (Built in 10 step) **(Monochrome EVF)** 2.9 V (1st step - 1st step)  Camera Mode (Built in 10 step)
TP116*	M103 VPP	**(For model with Color EVF)** To monitor EVF blue signal at Pin 18 of IC8001 on Main C.B.A. This test point is used for "EVF Sub Bright adjustment."	2.3 V (1st step - 1st step)  Camera Mode (Built in 10 step)
TP117*	M103 EXMOD1	To monitor EVF VCOM signal at Pin 16 of IC8001 on Main C.B.A. This test point is used for "EVF VCOM level adjustment."	 Camera Mode (Color Bar Chart)
TP118	EVF HD	Not used	----------
TP119	EVF R	Not used	----------
TP120	EVF B	Not used	----------

*Note:
To check for "TP114," "TP115," "TP116" or "TP117," rotate the LCD Monitor 180 degrees so it faces the same direction as the lens. (EVF display is ON.)

Fig. 6-1

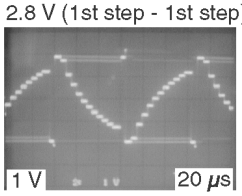
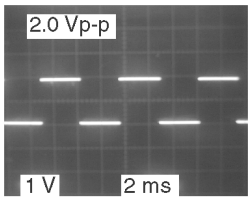
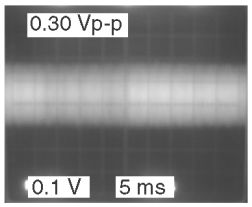
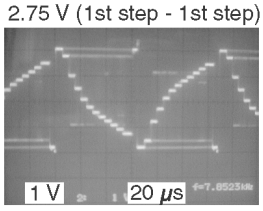
Pin No.	Signal Name	Description	Waveforms
TP121	EVF G	To monitor LCD green signal at Pin 7 of IC8001 on LCD C.B.A. This test point is used for "LCD Contrast/Bright adjustment" and "LCD Sub Bright adjustment."	2.8 V (1st step - 1st step)  Camera Mode (Built in 10 step)
TP122	HID	To monitor HID signal at Pin 44 of IC3201 on Main C.B.A. This test point is used for "VCR PG shifter adjustment.	 Rec/PB Mode
TP123	ENVELOPE	To monitor Envelope signal at Pin 41 of IC5001 on Main C.B.A.	 PB Mode (SP)
TP124	SPA	Not used	----------
TP125	ATFI	To monitor ATF signal at Pin 23 of IC3201 on Main C.B.A.	----------
TP126	M103 REG3	Not used	----------
TP127	DGND	Grounding terminal	----------
TP128	EEPROM CS	Not used	----------
TP129	CAMF VDD	Not used	----------
TP130	CAMF VPP	Not used	----------
TP131	MON R	Not used	----------
TP132	MON G	Not used	----------
TP133	MON B	Not used	----------
TP134	CAM AGND	Grounding terminal	----------
TP135	(CAP FG)	Not used	----------
TP136	AGC OUT	Not used	----------
TP137	(M103 PON)	Not used	----------
TP138	AD IN	Not used	----------
TP139	AD IN2	Not used	----------
TP140	AGCOUT2	Not used	----------
TP141	SBO	To monitor LCD red signal at Pin 9 of IC8001 on LCD C.B.A. This test point is used for "LCD Sub Bright adjustment."	2.75 V (1st step - 1st step)  Camera Mode (Built in 10 step)

Fig. 6-2

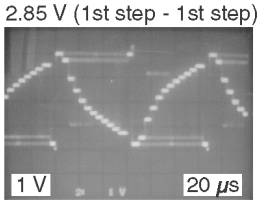
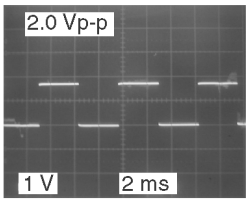
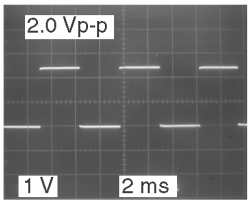
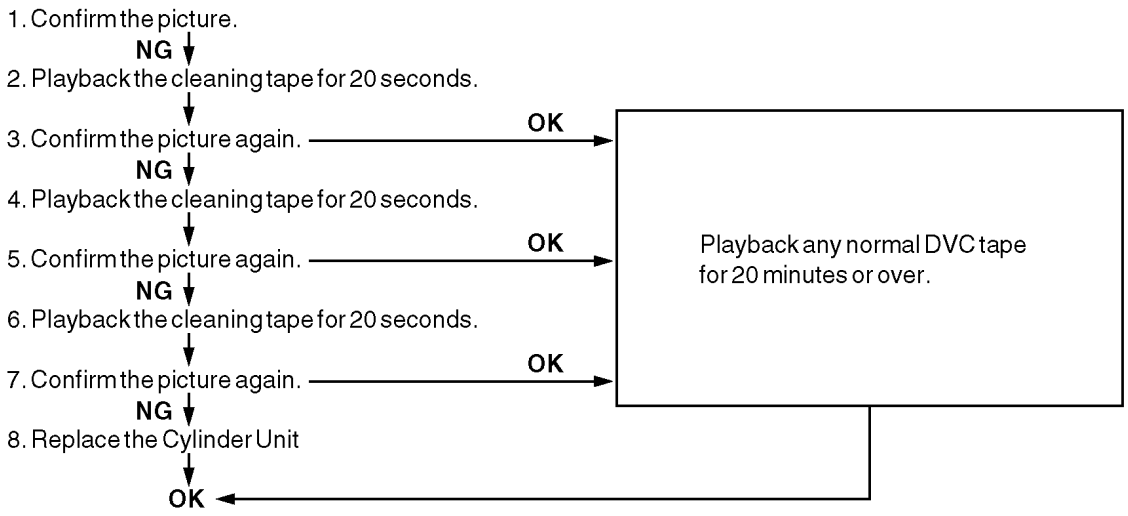
Pin No.	Signal Name	Description	Waveforms
TP142	UARTI	To monitor RS232C received data	----------
TP143	RF GND	Not used	----------
TP144	TCK	Not used	----------
TP145	TMS	Not used	----------
TP146	TDO	Not used	----------
TP147	TDI	Not used	----------
TP148	MIC CLOCK	MIC serial clodk output from camcorder to PC	----------
TP149	MIC DATA	MIC serial data output from camcorder to PC	----------
TP150	SBI	To monitor LCD blue signal at Pin 5 of IC8001 on LCD C.B.A. This test point is used for "LCD Sub Bright adjustment."	2.85 V (1st step - 1st step)  Camera Mode (Built in 10 step)
TP151	UARTO	To monitor RS232C transmitted data	----------
TP152	RECI	Not used	----------
TP153	SIO	Not used	----------
TP154	SCK	Not used	----------
TP155	VD	Not used	----------
TP156	(UNREG)	Power input terminal	----------
TP157	(UNREG GND)	Grounding terminal	----------
TP158	VTR RESET	Not used	----------
TP159	CAM RESET	Not used	----------
TP160	VTR RESET	Power microcontroller reset: low	----------
TP161	(HID2)	To monitor HID signal at Pin 44 of IC3201 on Main C.B.A.	 Rec/PB Mode
TP162	(HID1)	To monitor HID signal at Pin 44 of IC3201 on Main C.B.A. (HID signal is inverted on Interface Board.)	 Rec/PB Mode

Fig. 6-3

6.1.7. HOW TO USE THE DVC HEAD CLEANING TAPE / VFK1451

Please use the cleaning tape as described below.

Note: This cleaning tape has a total playback time of 2 minutes 30 seconds. it can be used 30 times.



The picture will look like this in case of clogged video head.

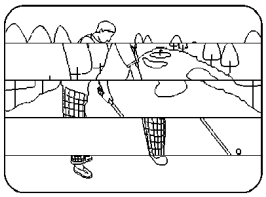


Fig. 7

6.1.8. REPLACEMENT PROCEDURES FOR CSP (CHIP SIZE PACKAGE) IC

6.1.8.1. EQUIPMENT

1. Pre-Heater
2. Spot Heater
3. Vacuum Pick-up
4. P.C.B. Holder

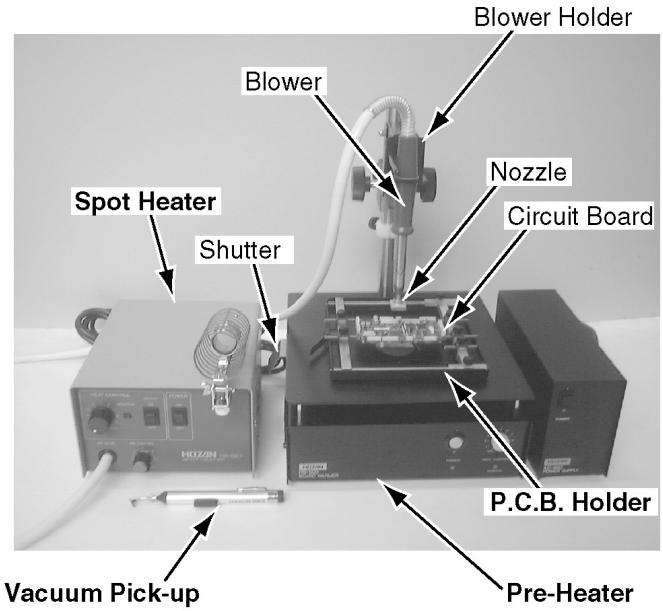


Fig. 8-1

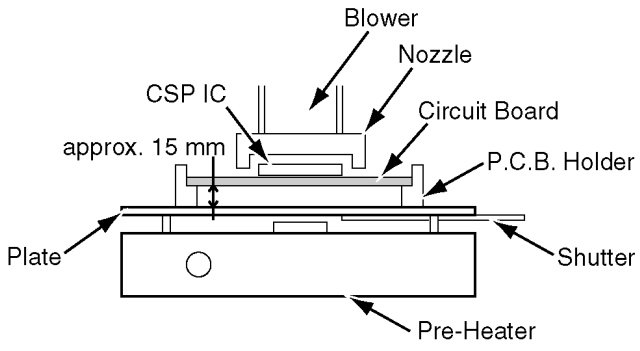
Fixture	Preparation for Fixture	Condition		Warming-up
		Heat Control Level	Air Control Level	
Spot Heater	Set a Nozzle to Blower of Spot Heater.	Level 8.5 (245 °C)	MAX	After setting fixtures, turn on the power. Then, wait for approx. 5 minutes to stabilize air condition. **Note:** Be sure to open the shutter of Pre-Heater.
Pre-Heater	Set the Blower to Blower Holder.	MAX (120 °C~150 °C)	---	
Reference for Temperature				

Fig. 8-2

6.1.8.2. REMOVAL OF CSP IC

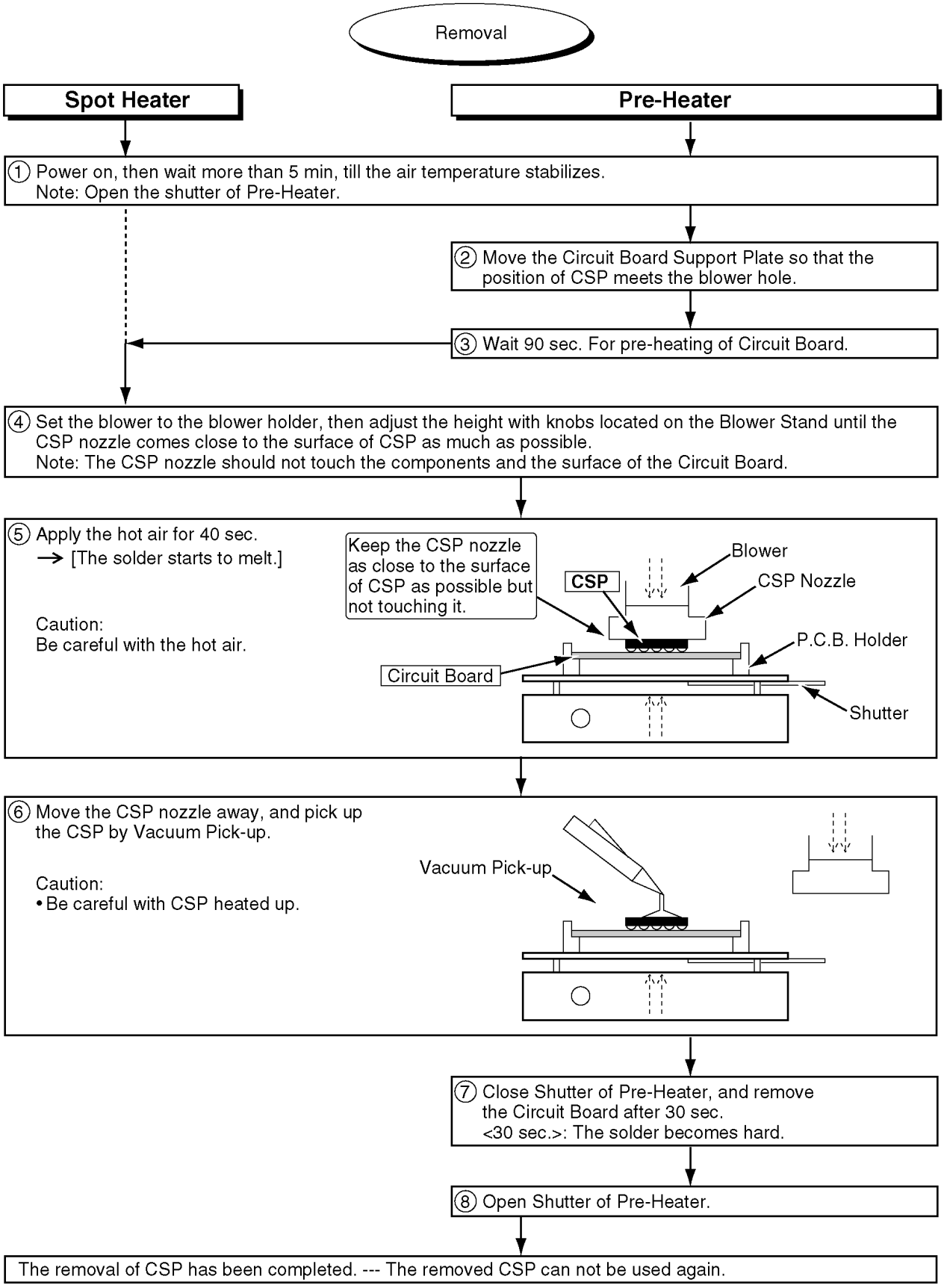

Removal
Spot Heater
Pre-Heater
① Power on, then wait more than 5 min, till the air temperature stabilizes.
Note: Open the shutter of Pre-Heater.
② Move the Circuit Board Support Plate so that the position of CSP meets the blower hole.
③ Wait 90 sec. For pre-heating of Circuit Board.
④ Set the blower to the blower holder, then adjust the height with knobs located on the Blower Stand until the CSP nozzle comes close to the surface of CSP as much as possible.
Note: The CSP nozzle should not touch the components and the surface of the Circuit Board.
⑤ Apply the hot air for 40 sec.
→ [The solder starts to melt.]
Caution:
Be careful with the hot air.
Keep the CSP nozzle as close to the surface of CSP as possible but not touching it.
CSP
Blower
CSP Nozzle
P.C.B. Holder
Circuit Board
Shutter
⑥ Move the CSP nozzle away, and pick up the CSP by Vacuum Pick-up.
Caution:
• Be careful with CSP heated up.
Vacuum Pick-up
⑦ Close Shutter of Pre-Heater, and remove the Circuit Board after 30 sec.
<30 sec.>: The solder becomes hard.
⑧ Open Shutter of Pre-Heater.
The removal of CSP has been completed. --- The removed CSP can not be used again.

Fig. 8-3

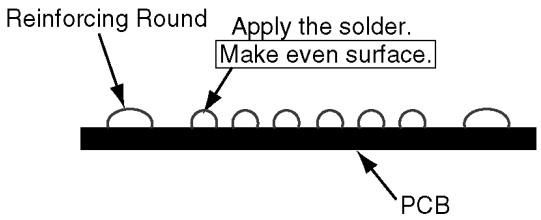
6.1.8.3. INSTALLATION OF CSP IC

Mounting of CSP

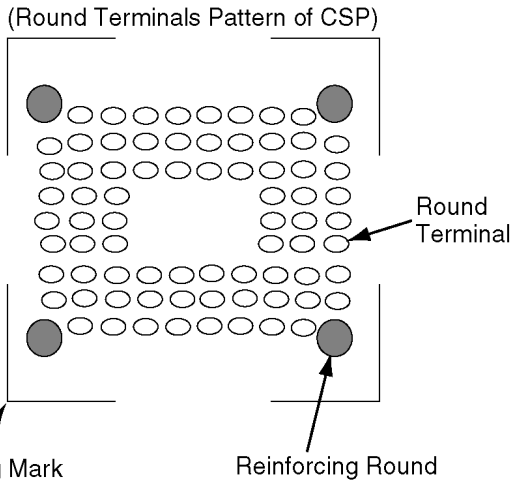
A. Cleaning

① **Applying the flux to the round terminal pattern.**
Apply the flux using an applicator, then tap it on round terminals.

② **Applying the solder to round terminals of PCB. --- [Using string solder]**
Apply the solder to the soldering iron, then move the soldering iron on the round terminals so that the solder evenly stays on the round terminals (Confirm with Loupe).
Note:
- The power of the soldering iron should be less than 30 W.
- Be sure to make all solders applied are the same in size and height.

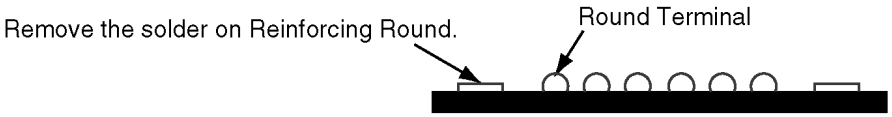


Caution:
- Do not touch the round terminals with the soldering iron. Otherwise, pattern may be damage.



Remark:
There are 2 types of CSPs. One of them is with Reinforcing Round, and the other one is without.

③ **For CSP with Reinforcing Round ⟶ Removing the solder on 4 corners (Reinforcing Rounds)**



④ **Cleaning of the round terminal pattern using an applicator with the cleaner (alcohol etc.).**

⑤ **Applying the flux to the round terminal pattern.**
Note: Do not let any dust get into the flux.

B. Positioning

⑥ **Check if there are solder on new CSP or not. If not, perform steps (1) ~ (4).**
Note: When applying the solder, do not touch the surface of CSP with the soldering iron.
(1) Apply enough flux to the CSP.
(2) Apply a small amount of the solder.
(3) Clean the flux once.
(4) Apply a small amount of flux to CSP.
Note: Do not apply too much the flux.

⑦ **Positioning of new CSP on the round terminal pattern.**
- Put CSP on the round terminal pattern so that 4 corners of CSP meet the positioning marks printed on PCB.

Fig. 8-4

C. Mounting

Spot Heater

Pre-Heater

① Set the Circuit Board on Pre-Heater.
(after positioning CSP)

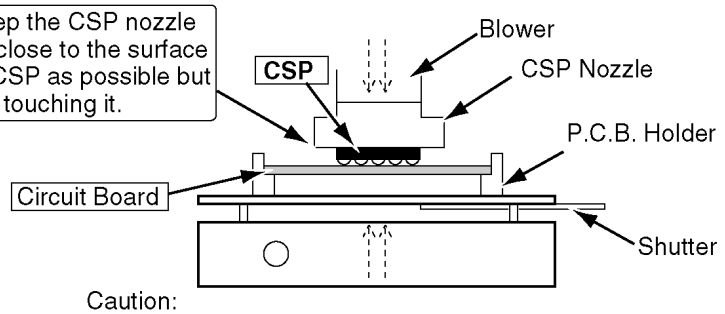
② Move P.C.B. Holder so that CSP position comes over the center of the blower hole.

③ Warm up the Circuit Board for 90 sec.

④ Set CSP nozzle over CSP.
The height of CSP nozzle is already adjusted during its removal.

⑤ Heat up CSP for 40 sec.
→ [Solder starts to melt.]
When the solder melts, the CSP will move slightly by itself until it sits correctly on the molten solder.

Keep the CSP nozzle as close to the surface of CSP as possible but not touching it.



Caution:
- Be careful with the hot air.
- Be carefull with any parts (connector, etc.).

⑥ Close Shutter of Pre-Heater, and remove the Circuit Board after 30 sec.
[30 sec.] --- The solder becomes hard.

Mounting of CSP is completed. → Reconfirm the mounting position with Position Mark.

That's all for CSP repair, and the final confirmation if the repair work is OK or not should be made by assembling the repaired Circuit Board into the camera unit.

Fig. 8-5

6.1.8.4. CSP IC LOCATION

Make sure to install CSP IC in the correct position on the Main C.B.A. as shown.

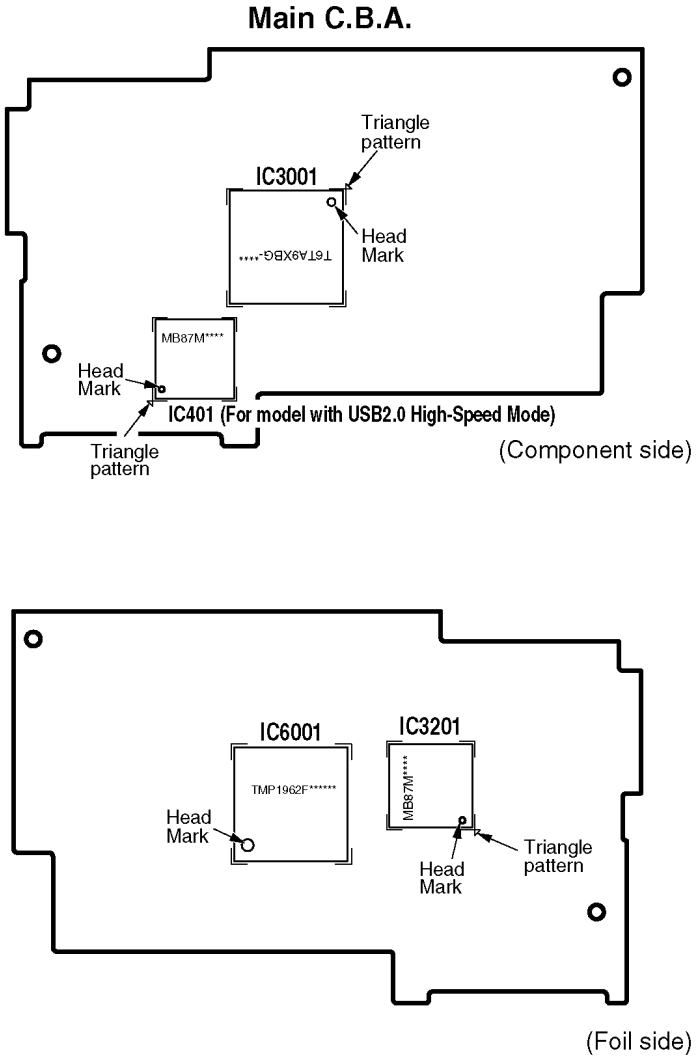
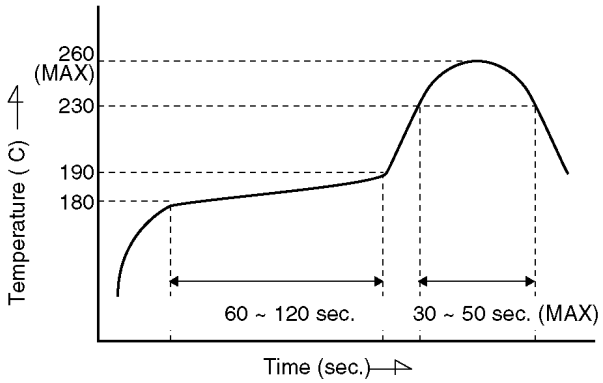


Fig. 8-6

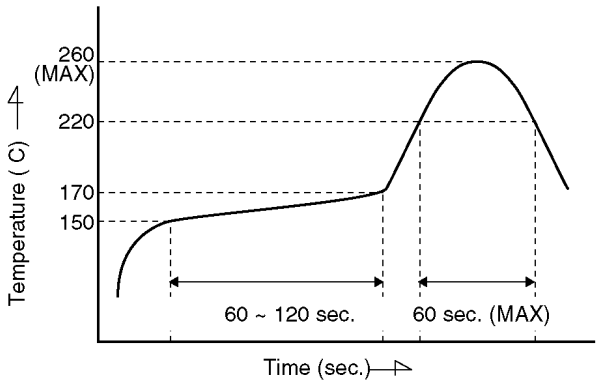
6.1.8.5. TEMPERATURE PROFILE FOR HEAT RESISTANCE OF CSP IC

Refer to the temperature profile. CSP ICs in the 2005 model have the following temperature profile.

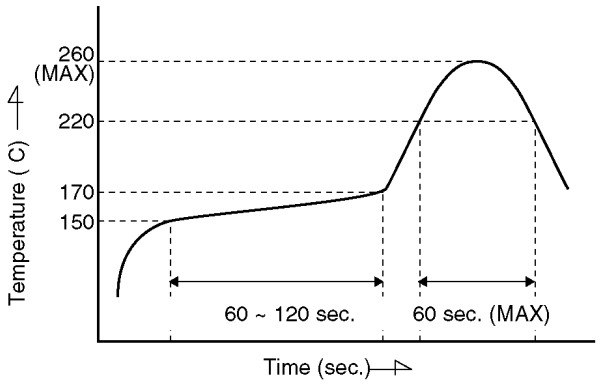
IC6001



IC3201



IC3001



IC401
(For model with USB2.0 High-Speed Mode)

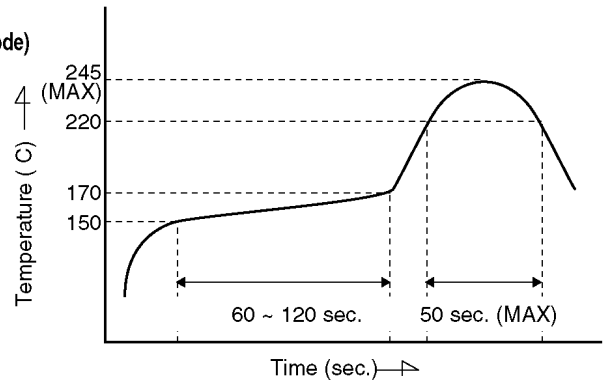


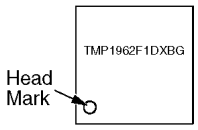
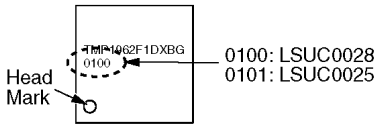
Fig. 8-7

6.1.9. IC6001 REPLACEMENT NOTE

Two types of IC6001 (FLASH or MASK) are used on a running change basis, however MASK TYPE of IC6001 is supplied only as a replacement part.

And MASK TYPE of IC6001 is supplied as IC6001 Kit with R6022 and R6031.

Types of IC6001

FLASH TYPE	
MASK TYPE	

Perform the addtion (R6022 and R6031) and also deletion (R6019 and R6032) of the following part simultaneously, when exchanging from the "FLASH TYPE" to the "MASK TYPE" of IC6001.

	FLASH TYPE	MASK TYPE		
Ref No.	Part No.	Part No.	Part Name	Models
IC6001	- - - - - - - - - -	LSUC0028 (IC6001, R6022 and R6031 are included)	IC6001 Kit	A,B,C,D, E,F,G
IC6001	- - - - - - - - - -	LSUC0025 (IC6001, R6022 and R6031 are included)	IC6001 Kit	H,I
R6019	ERJ3GEY0R00V	- - - - - - - - - -	Resistor	
R6022	- - - - - - - - - -	ERJ3GEY0R00V	Resistor	
R6031	- - - - - - - - - -	ERJ3GEY0R00V	Resistor	
R6032	ERJ3GEY0R00V	- - - - - - - - - -	Resistor	

6.1.10. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handlings techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

6.1.11. MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
NOT USED	PT

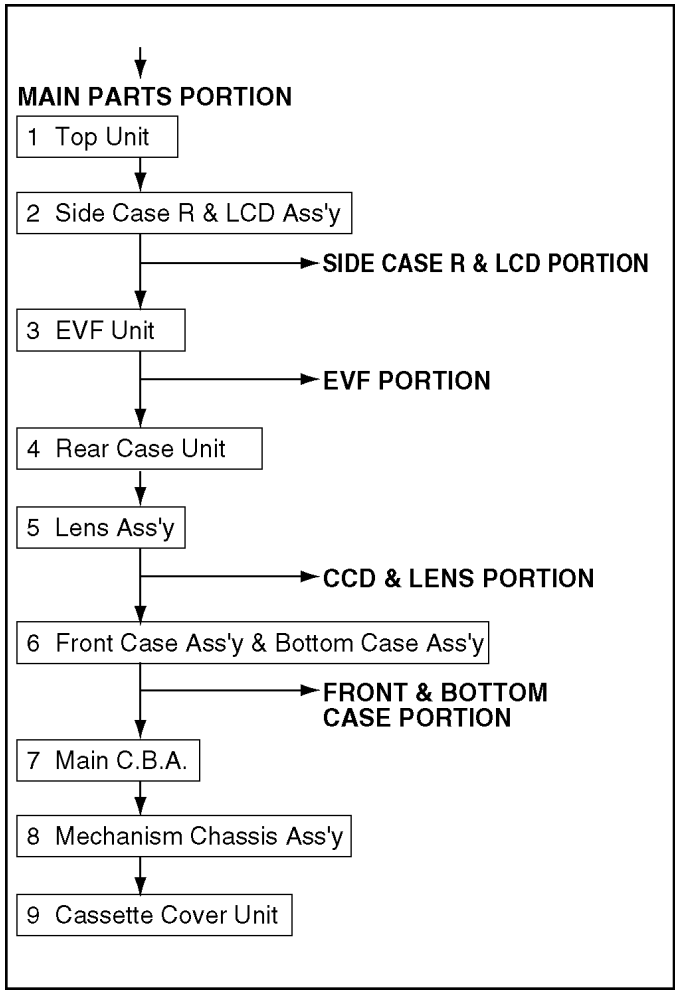
Note:
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for Mark "PT."

7 DISASSEMBLY ASSEMBLY PROCEDURES

7.1. CABINET SECTION

7.1.1. DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.


MAIN PARTS PORTION
1 Top Unit
2 Side Case R & LCD Ass'y
SIDE CASE R & LCD PORTION
3 EVF Unit
EVF PORTION
4 Rear Case Unit
5 Lens Ass'y
CCD & LENS PORTION
6 Front Case Ass'y & Bottom Case Ass'y
FRONT & BOTTOM CASE PORTION
7 Main C.B.A.
8 Mechanism Chassis Ass'y
9 Cassette Cover Unit

Note :

1. When removing the cabinet, work with care so as not to break the Locking Tabs.
2. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
3. When reinstalling, ensure that the connectors are connected and electrical components have not been damaged.
4. Do not supply power to the unit during disassembly and reassembly.

7.1.2. Disassembly Method

MAIN PARTS PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(52)	Top Unit	1	4(433), (541)	1
2	-	Side Case R & LCD Ass'y	1	2(450), 4(533), FP7, FP8	2
3	(12)	EVF Unit	1	(533), FP11 or FP9 (For model with Color EVF)	3
4	(11)	Rear Case Unit	1	2(433), (450), (533), (533) (For model with S-VIDEO) P1, (L-1)	4
5	-	Lens Ass'y	1	2(533), FP301, FP701	5
6	-	Front Case Ass'y & Bottom Case Ass'y	1	3(433), FP6, B1	6
7	(E10)	Main C.B.A.	1	2(450), FP1,FP2, FP3, FP4, FP5, FP10	7
8	-	Mechanism Chassis Ass'y	1	3(413)	8
9	(2)	Cassette Cover Unit	1	-----	-

A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

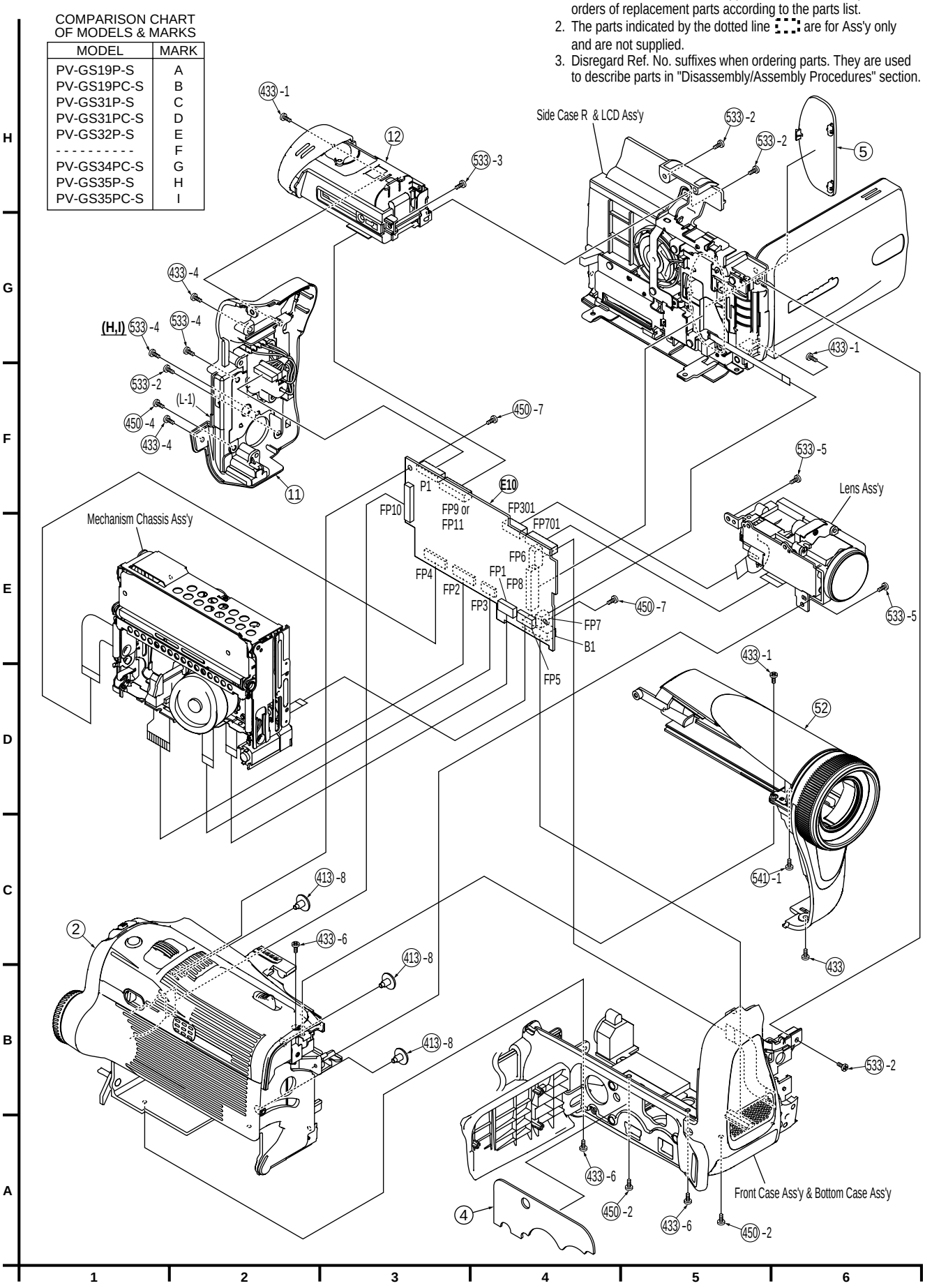
❶ MAIN PARTS SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I



FRONT & BOTTOM CASE PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	-	Bottom Case Ass'y	2	(433), (450)	-
2	(E30)	Jack C.B.A.	2	(450), 2(541)	9
	-	Bottom Angle Ass'y		2(541)	

A B C D E F

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(E20)	Front C.B.A.	2	4(533), Light Shield Sheet	10
2	(56)	**(For model with Light)** Four Eyes Lens	2	-----	10
3	(51)	Front Case	2	-----	-

A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

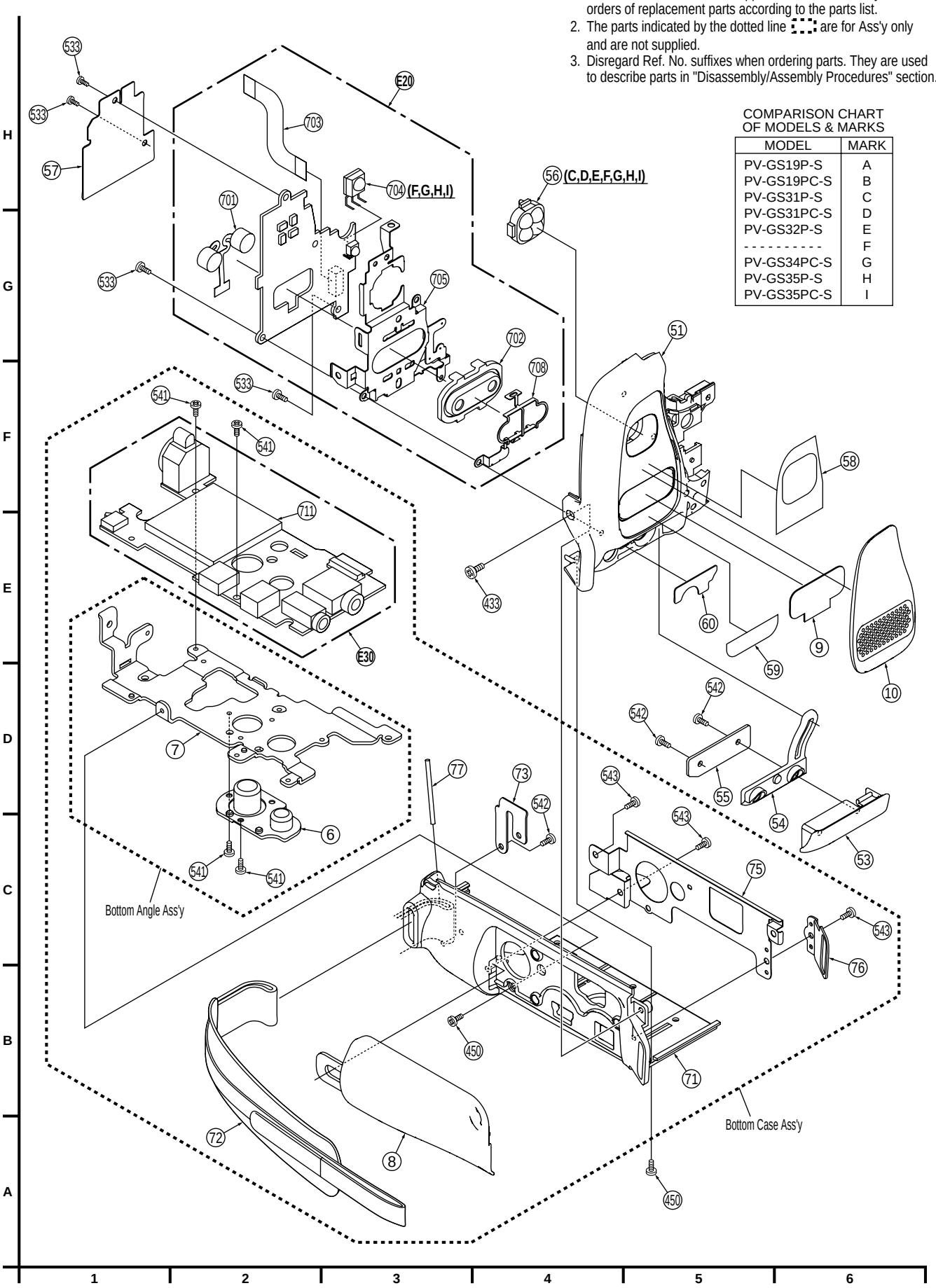
❷ FRONT AND BOTTOM CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I



SIDE CASE R & LCD PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(31)	Side Case R Unit	3	(419), (457)	11
2	(33)	LCD Case A Unit	3	2(455), 8(L-1)	-
3	(32)	Shaft Case Unit	3	FP8101	11
4	(E40)	LCD Backlight C.B.A.	3	(542), (L-2), FP8102	12
5	(34)	LCD Case B	3	4(L-3)	12
6	- (35)	LCD Panel Ass'y LCD Shield Case Unit	3	3(L-4)	12

A B C D E F

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(42)	LCD Panel	3	-----	13
2	(39)	Reflect Sheet	3	(L-5)	13
3	(37)	Lead Light Panel	3	-----	13
4	(38)	Diffusion Sheet	3	-----	13
5	(40)	BEF Sheet	3	-----	13
6	(41)	BEF Sheet A	3	-----	13
7	(36)	Panel Holder Unit	3	-----	13

A B C D E F

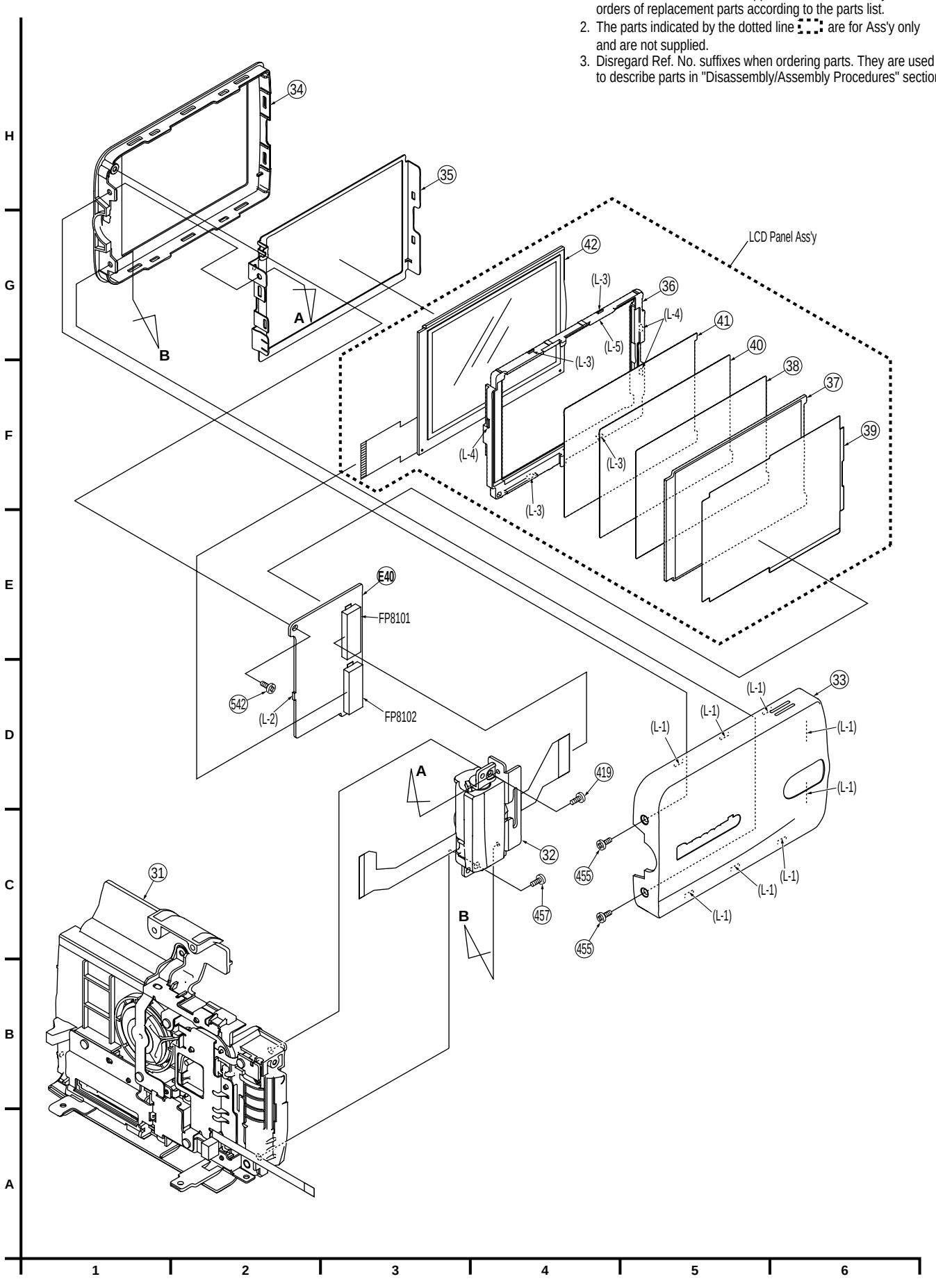
How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

❸ SIDE CASE R AND LCD SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⋯ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.



CCD & LENS PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	E50	CCD C.B.A.	4	2536	14
2	64	Filter Rubber	4	-----	14
3	63	Optical Filter	4	-----	14
4	62	(For model with 30X zoom) Filter Holder	4	-----	14

A B C D E F

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	65	Zoom Motor Unit	4	2538, Unsolder	15
2	66	Focus Motor Unit	4	2538, 533 (For model with 26X zoom) Unsolder	15

A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3404 = 3 Screws 404, 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

❹ CCD AND LENS SECTION

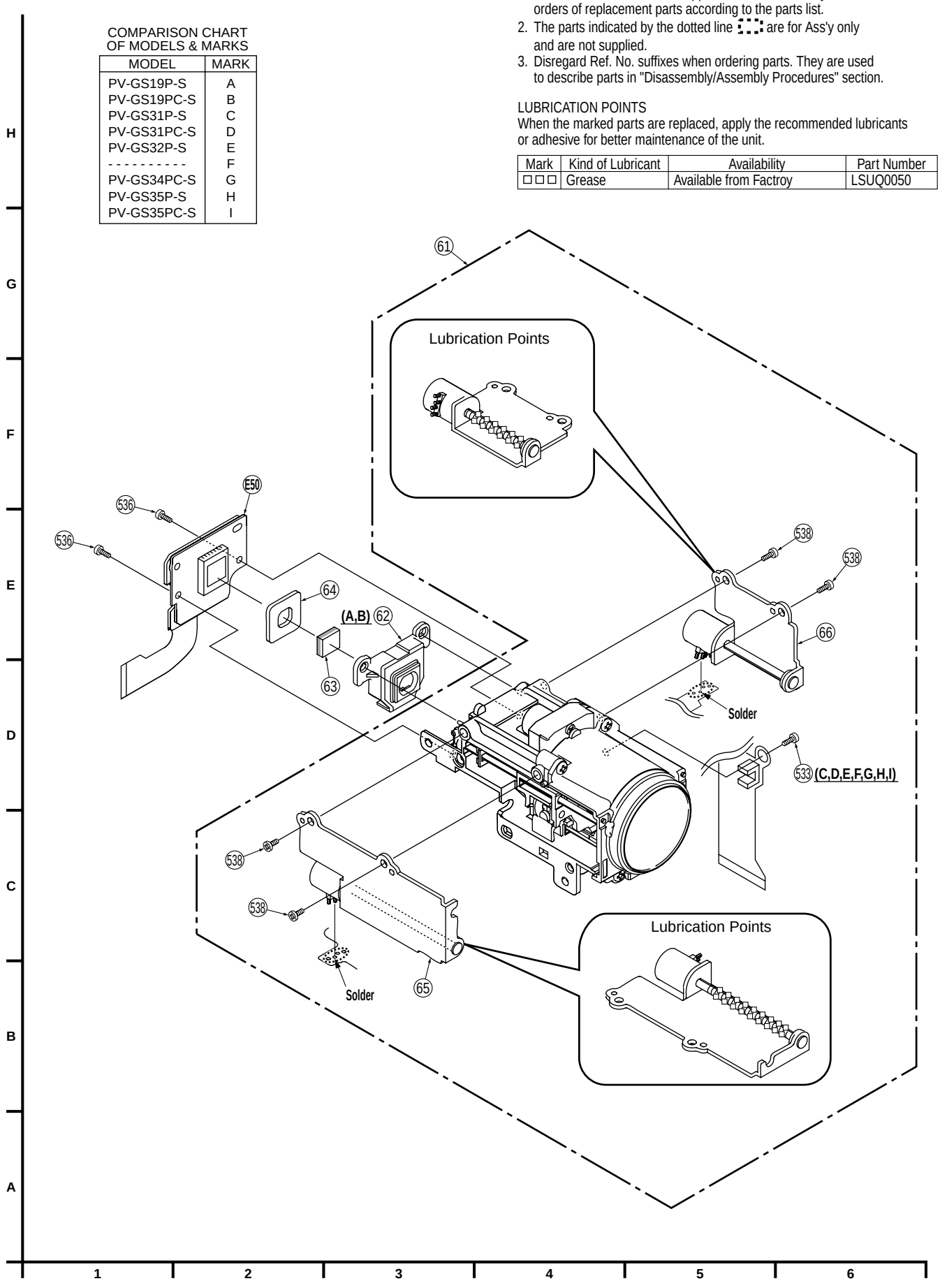
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

Note:
1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
□□□	Grease	Available from Factroy	LSUQ0050



EVF PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	⑯	EVF Slide Piece	5	2㊿	16
2	⑬ ⑮	EVF Base Frame EVF Earth Plate	5	2(L-1)	16
3	⑭	EVF Spring	5	㊿, (L-2)	17
4	⑰	EVF F.P.C.	5	FP951	17

A B C D E F

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	⑱	Eye Cap	5	2㉔	18
2	㉓	EVF Lens Unit	5	-----	19
3	㉒	Eye Sight Lever	5	-----	19

A B C D E F

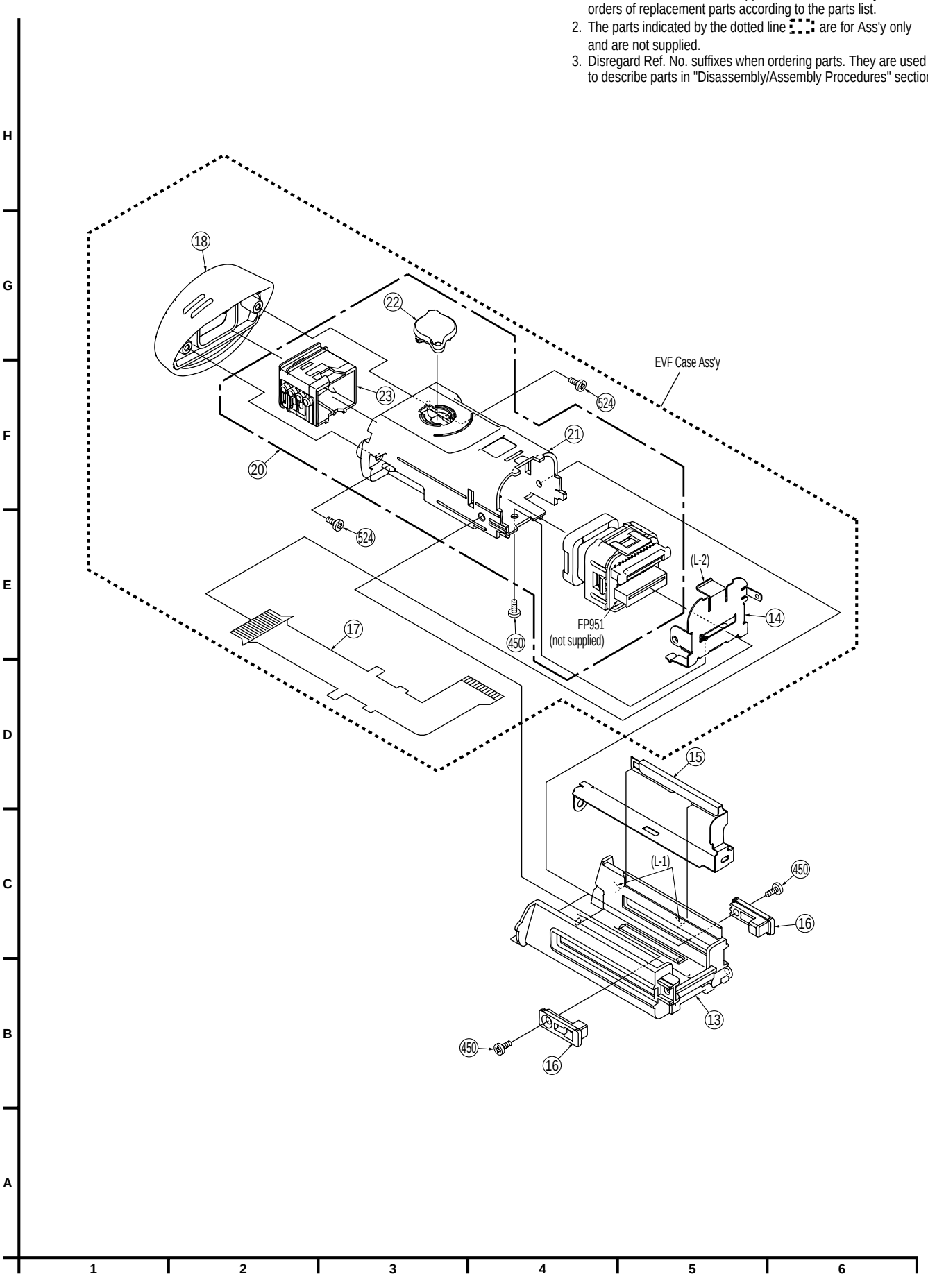
How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3㊹ = 3 Screws ㊹, 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

❺ EVF SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.



Notes in chart

1. **Removal of Top Unit**
   1) Open the LCD and the Cassette Cover, then remove the 5 Screws (433, 541).
   2) Slide to extend the EVF.
   3) Pull and slide the Top Unit carefully.

Installation of Top Unit

1) Slide to extend the EVF.
2) Insert Portion A of the Top Unit, and slide firmly to install.

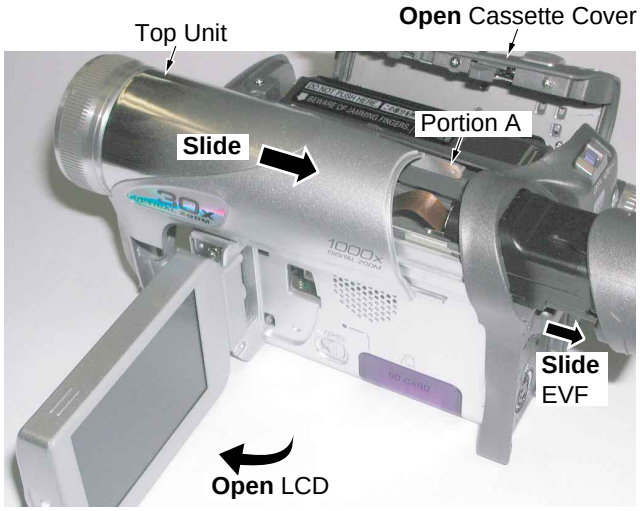
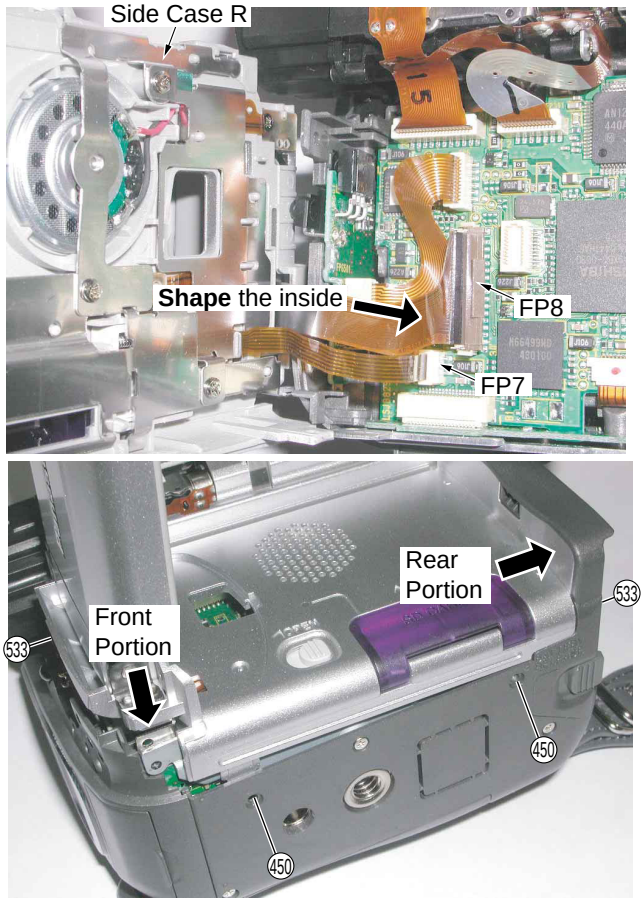


Fig. D1

2. **Installation of Side Case R & LCD Ass'y**
   1) Connect the LCD F.P.C. and Side R F.P.C. to the Connectors FP7 and FP8 so as not to damage the F.P.C.s.
   2) Secure Front Portion and Rear Portion, and tighten 6 Screws (450, 533)



<Bottom View>

Fig. D2

3. **Installation of EVF Unit**
   1) Confirm that the EVF F.P.C. is hooked to the Hooking Portions on the Bottom.
   2) Install the EVF Unit while holding the EVF F.P.C. to avoid damage of the EVF F.P.C.

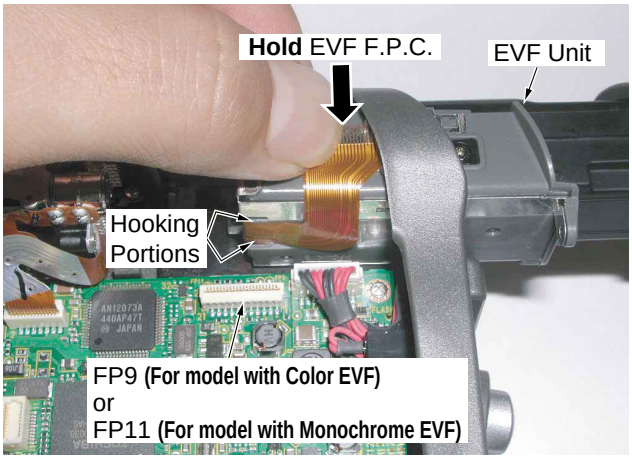


Fig. D3

4. **Installation of Rear Case Unit**
   1) Position connector leads so as not to cover Portion A.

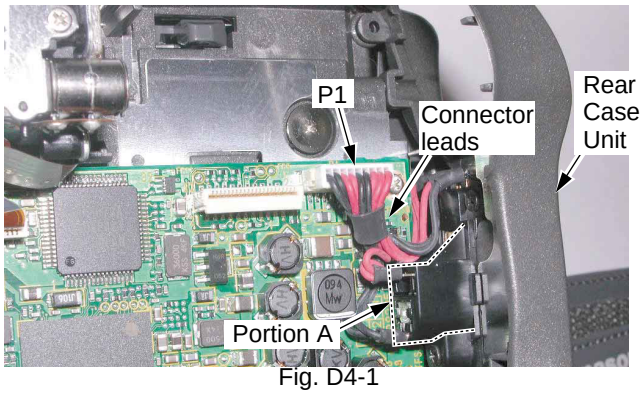
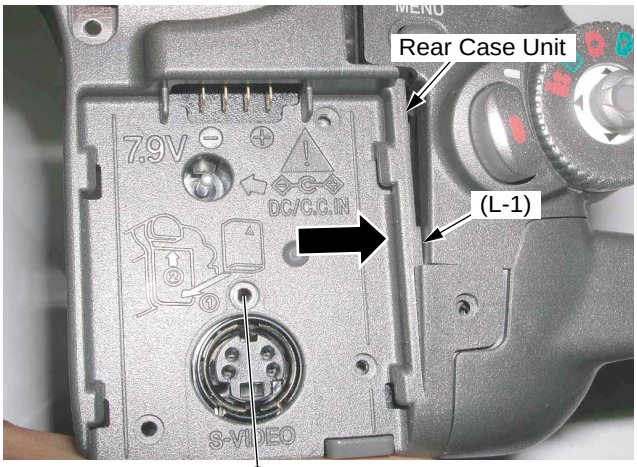


Fig. D4-1

   2) Secure the Locking Tab (L-1) of the Rear Case Unit to install it.



(533) **(For model with S-VIDEO)**

Fig. D4-2

5. **Installation of Lens Ass'y**
   Take care not to damage the motor leads.
   Install the Lens Ass'y with the 2 Bosses and 2 Screws (533).

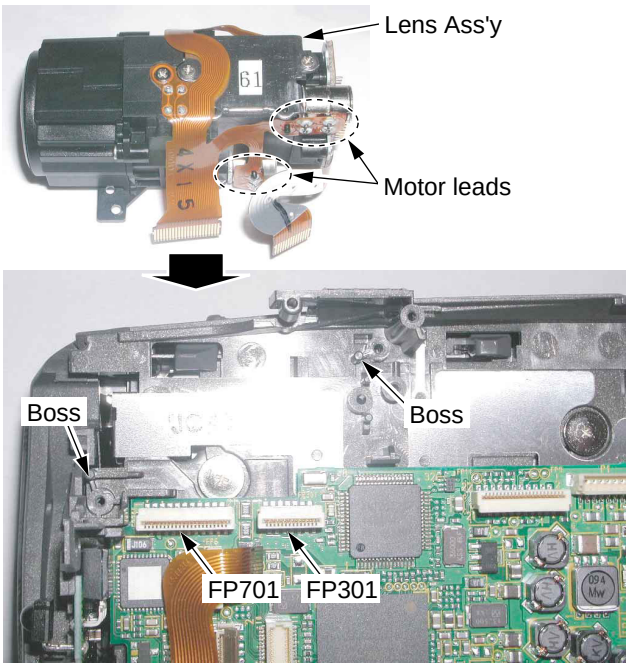


Fig. D5

6. **Removal of Front Case Ass'y & Bottom Ass'y**
   1) Disconnect the Front F.P.C. from the Connector FP6.
   2) Open the Cassette Cover and remove the 3 Screws (433).
   3) Remove both the Front Case Ass'y & Bottom Case Ass'y and continue to grasp them, while disconnecting the Connector B1.

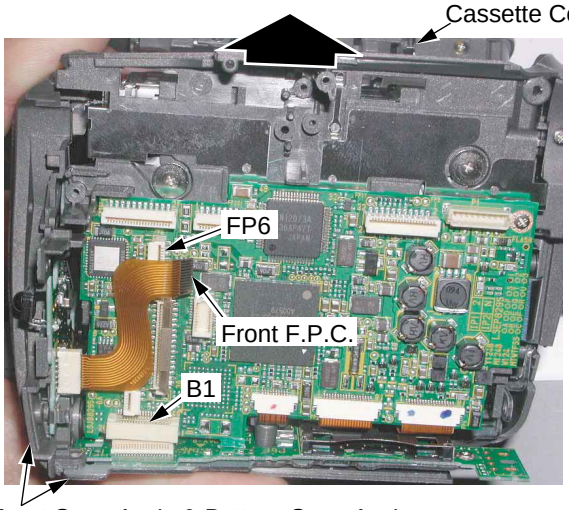


Fig. D6

Alternative method:
If necessary, the Front Case Ass'y can be removed at first.

7. **Installation of Main C.B.A.**
   Take care not to damage the F.P.C.s.
   1) Connect the Zoom Switch F.P.C. to the Connector FP10 on the Main C.B.A.
   2) Connect the F.P.C.s to the connectors on the Main C.B.A, verifying that the direction of the Flexible Cables is correct. Refer to "REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (Zero Insertion Force) CONNECTOR."
   3) After installing the Main C.B.A., confirm the F.P.C.s are positioned as shown.

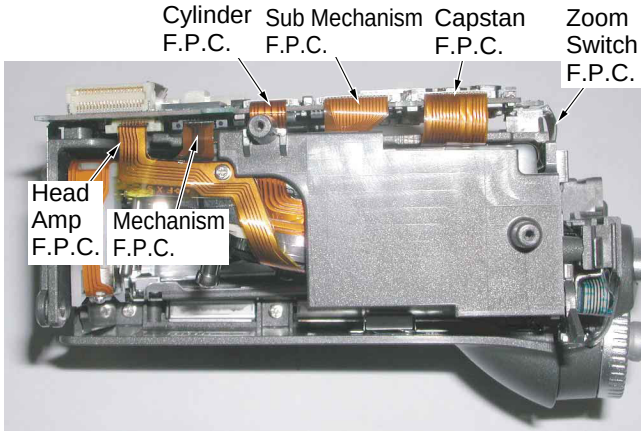


Fig. D7

8. **Installation of Mechanism Chassis Ass'y**
   Take care not to damage the F.P.C.s.
   1) After installing the Mechanism Chassis Ass'y, confirm the F.P.C.s are positioned as shown.

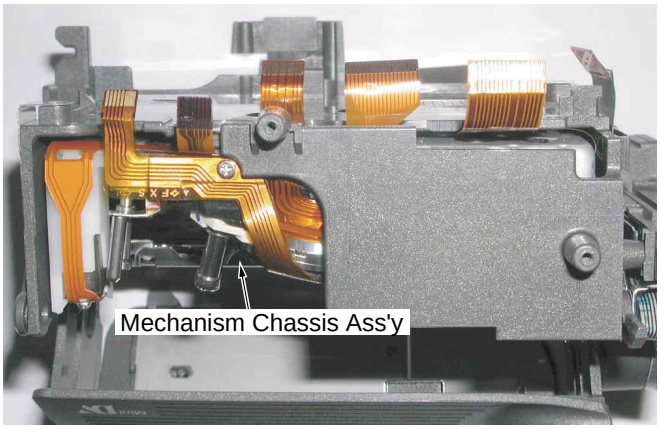
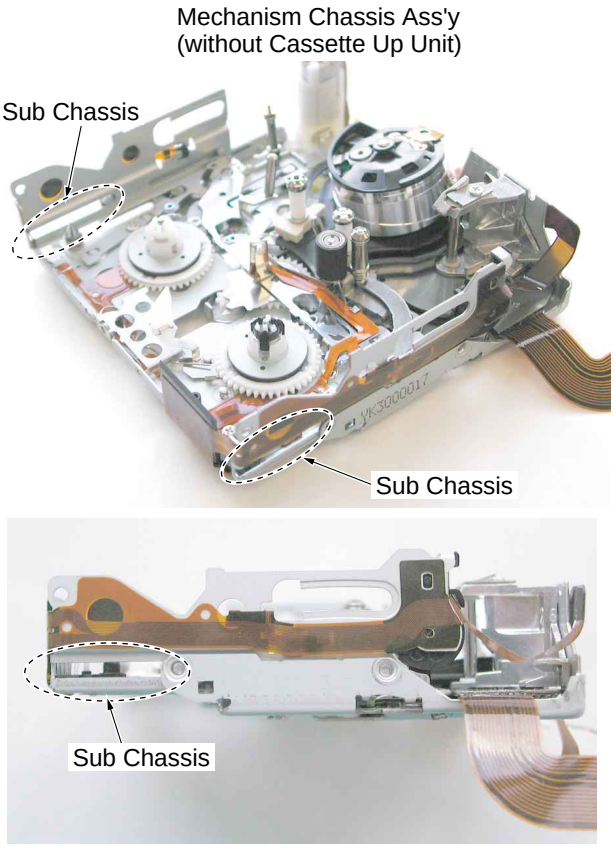


Fig. D8-1

Replacement of Mechanism Chassis Ass'y
When replacing the Main Chassis Ass'y or the Cylinder Unit, be sure to perform the Envelope Output Adjustment. Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.

Handling Caution of Mechanism Chassis Ass'y
When servicing the Mechanism Chassis Ass'y without the Cassette Up Unit, do not handle the Sub Chassis of the Mechanism Chassis Ass'y.



<Side View>

Fig. D8-2

9. **Removal of Jack C.B.A. & Bottom Angle Ass'y**
   1) Open the L Cover.
   2) Remove the Screw (450) and release the Tripod Portion from the hole.

   Installation of Jack C.B.A. & Bottom Angle Ass'y
   Insert both the Jack C.B.A. & Bottom Angle Ass'y into the 2 slots and secure the Tripod into the hole.

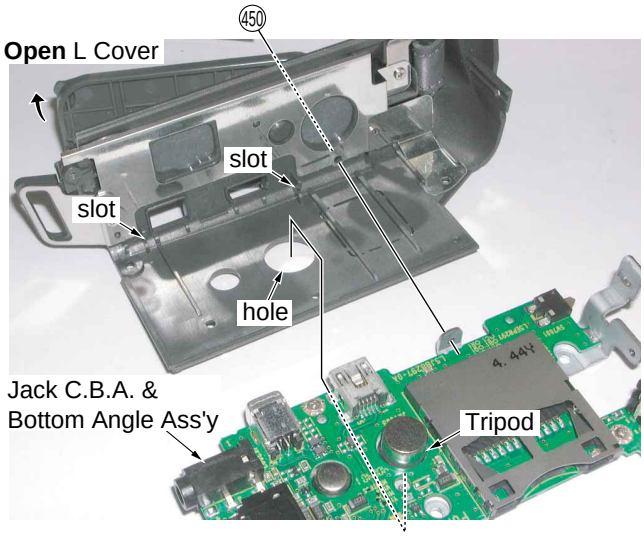


Fig. D9

10. **Installation of Front C.B.A.**
   1) Install the Four Eyes Lens **(For model with Light)** into the Front Case. Then, install the Front C.B.A. with 2 bosses of the Four Eyes Lens and 2 Screws (533).
   2) Install the Light Shield Sheet with 2 Screws (533).

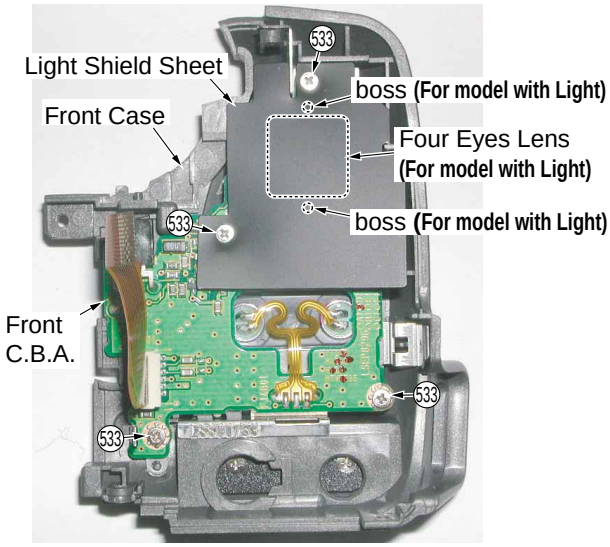


Fig. D10

11. **Removal of Side Case R Unit**
   Open and rotate the LCD to access the 2 Screws (419, 457) as shown below, then remove it.

   Installation of Side Case R Unit
   When installing, note to the direction of the Shaft Case Unit. Be sure to install the LCD (Ass'y) into the Side Case R Unit with the LCD rotated as shown. Otherwise, the LCD open/close switch on the Side Case R Unit will be damaged.

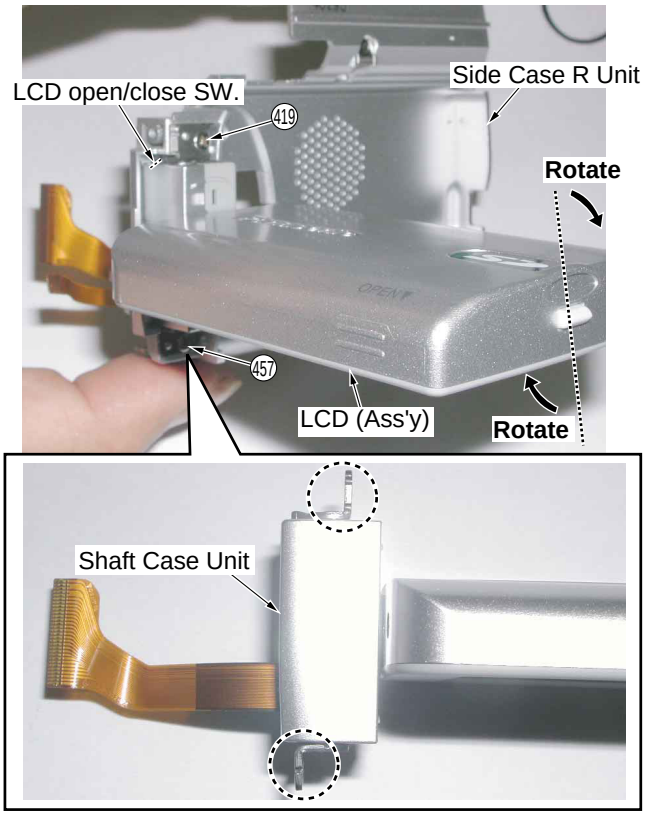


Fig. D11

12. **Installation of LCD Backlight C.B.A., LCD Panel Ass'y, LCD Shield Case Unit, LCD Case B**

Use extreme care regarding LEDs when handling the LCD Backlight C.B.A.

Install in order shown below.

1) Install the LCD Panel Ass'y onto the LCD Shield Case Unit with the 3 Locking Tabs (L-4) while carefully bending the LCD F.P.C. at it's base so as not to damage it.
2) Install the LCD Shield Case into the LCD Case B with the 4 Locking Tabs (L-3).
3) Install the LCD Backlight C.B.A. onto the LCD Panel Ass'y with the Locking Tab (L-2).
4) Tighten the Screw (542) while keeping the LCD Backlight C.B.A. pressed toward the right. Then, connect the Connector FP8102.

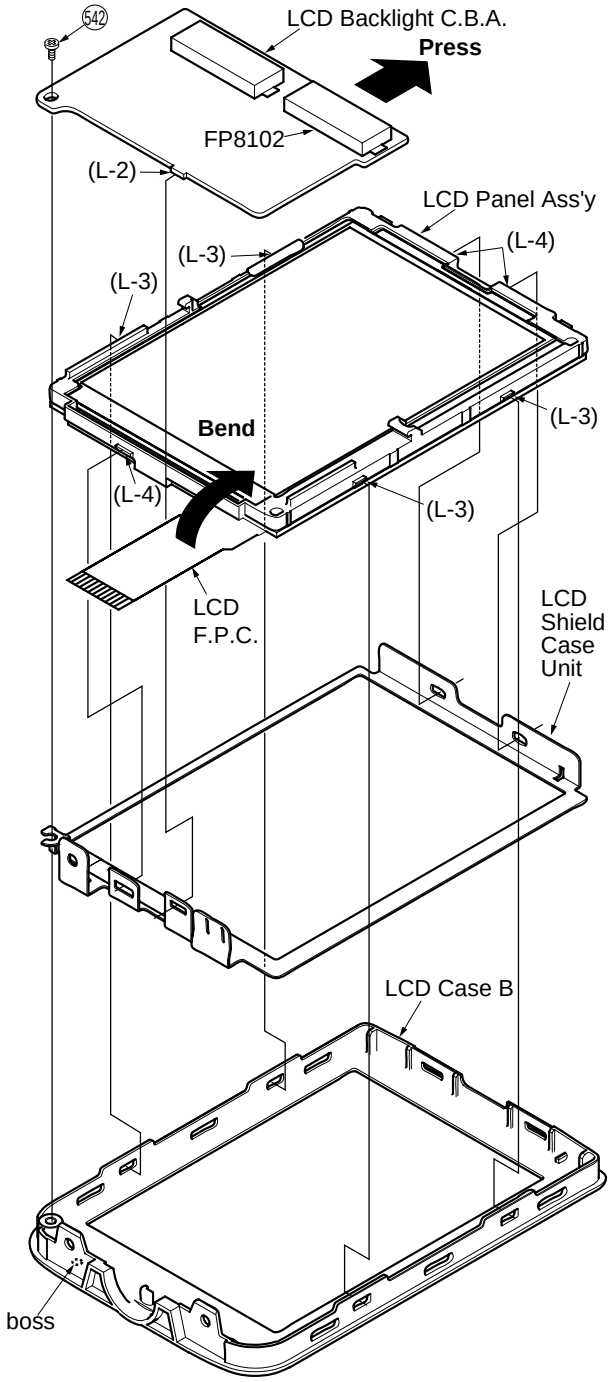


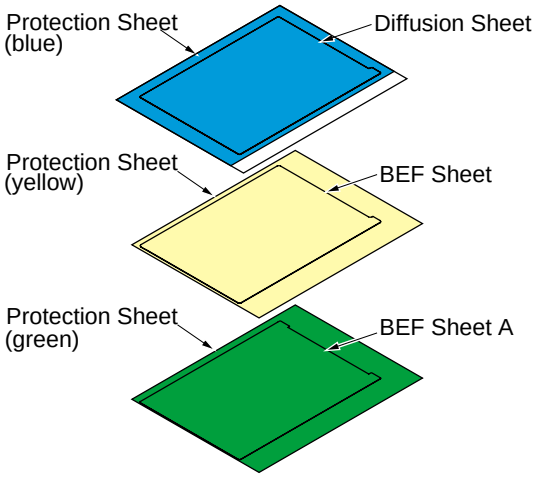
Fig. D12

13. **Installation of LCD Panel, Reflect Sheet, Lead Light Panel, Diffusion Sheet, BEF Sheet, BEF Sheet A, Panel Holder Unit**

a. When replacing the LCD Panel, the Diffusion Sheet, the BEF Sheet and the BEF Sheet A, make sure to remove the Protection Sheets.

To distinguish Sheets from attached Protection Sheet:

- A blue Protection Sheet is affixed to both faces of the Diffusion Sheet.
- A yellow Protection Sheet is affixed to both faces of the BEF Sheet.
- A transparent Protection Sheet is affixed to both faces of the BEF Sheet A.



b. Use extreme care when handling the LCD Panel, the Reflect Sheet, the Lead Light Panel, the Diffusion Sheet, the BEF Sheet and the BEF Sheet A to avoid damage, dust, and spots (especially fingerprints, etc.)

Install in order shown below.

1) Install in order the BEF Sheet A, BEF Sheet and Diffusion Sheet while inserting the corners of each sheets into the slots of the Panel Holder Unit.
2) Install the Lead Light Panel while inserting the corners into the slots of the Panel Holder Unit.
3) Align the Reflect Sheet with the edge of the Panel Holder Unit, and install it using adhesive tape on the Reflect Sheet.

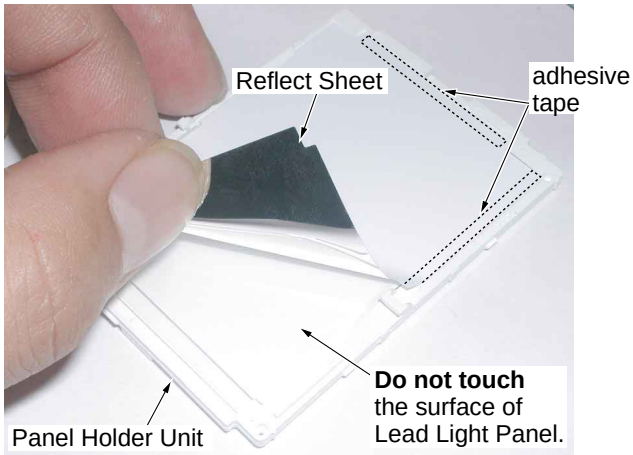


Fig. D13-1

4) Install the LCD Panel with adhesive tape so that the cross marks are positioned in the center of the holes in the Panel Holder Unit.

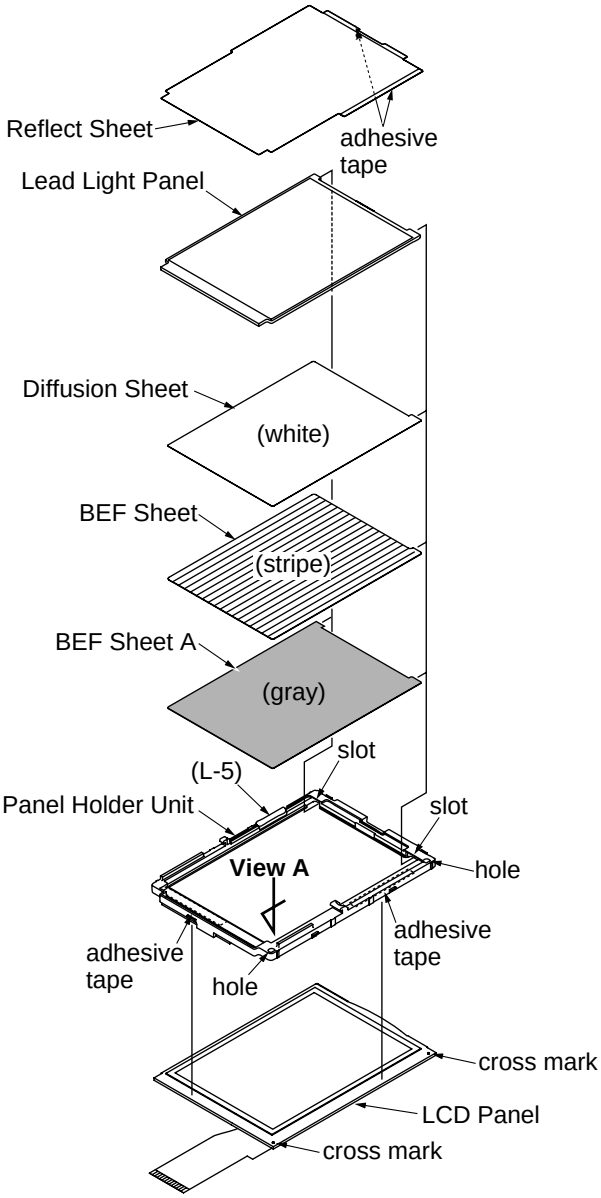


Fig. D13-2

14. **Removal of CCD C.B.A., Filter Rubber, Optical Filter, Filter Holder**
CAUTION:
1) When removing the CCD C.B.A., take care that the Optical Filter does not fall out.
2) Use extreme caution when removing the CCD C.B.A. as it is easily damaged by static electricity. Use a Wrist Strap while removing and installing.
3) Do not touch the CCD window surface.

Installation of CCD C.B.A., Filter Rubber, Optical Filter, Filter Holder
Install in order shown below.
1) Install the Filter Holder **(For model with 30X zoom)** correctly.
2) Install the Optical Filter correctly.
Note: Make sure that no dust gets on the Optical Filter or in the Lens Unit. Clean the Optical Filter with lens cleaning paper dampened with lens cleaner if necessary.
3) Install the Filter Rubber on the Optical Filter correctly as shown below.
Note: Make sure that no dust gets on the Filter Rubber.
4) Install the CCD C.B.A. into the Lens Unit. Then, tighten the 2 Screws (536).
Note: Do not touch the Lens Surface. Clean the surface with lens cleaning paper dampened with lens cleaner if necessary.

15. **Installation of Zoom Motor Unit/Focus Motor Unit**
Install the Zoom Motor Unit/Focus Motor Unit so that the Shaft of the Zoom Motor Unit/Focus Motor Unit is set in the Holder.

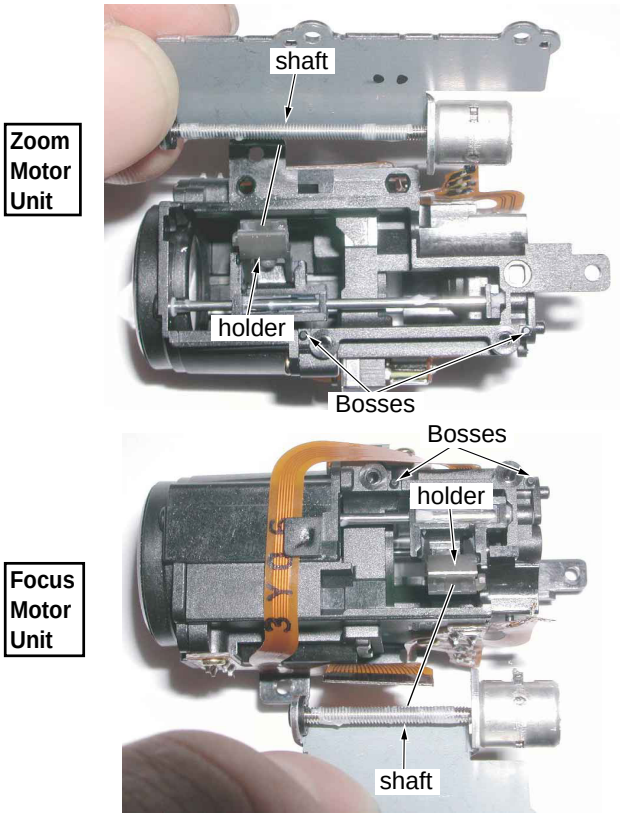
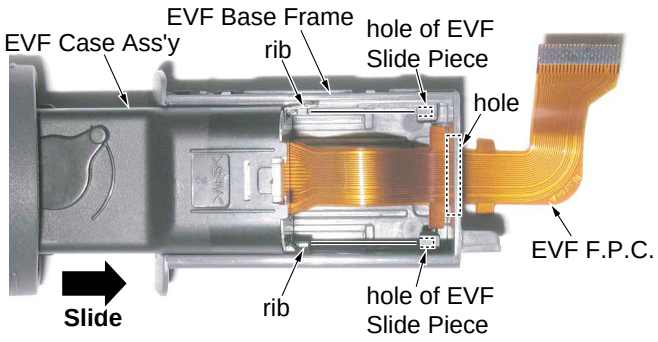
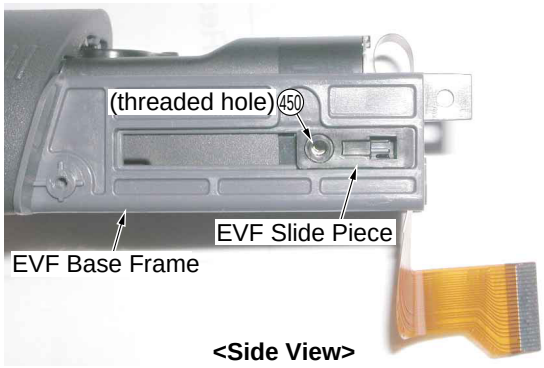


Fig. D15

16. **Installation of EVF Slide Piece, EVF Base Frame**
1) Pass the EVF F.P.C. through the EVF Base Frame hole.
2) Install the EVF Slide Pieces into the EVF Base Frame from both sides.
3) Slide the EVF Case Ass'y to the end so that the ribs are inserted into the holes of the EVF Slide Pieces.
4) Locate the threaded holes, and tighten the 2 Screws (450).
5) After installing, confirm the EVF moves correctly.



<Top View>



<Side View>

Fig. D16

17. **Installation of EVF Spring, EVF F.P.C.**
    1) Insert the EVF F.P.C. into the EVF Spring hole paying particular attention to the direction.
    2) Connect the EVF F.P.C. to Connector FP951.
    3) Insert the Locking Tab (L-2) at first, then fit the EVF Spring in the EVF Case and tighten the Screw (450).

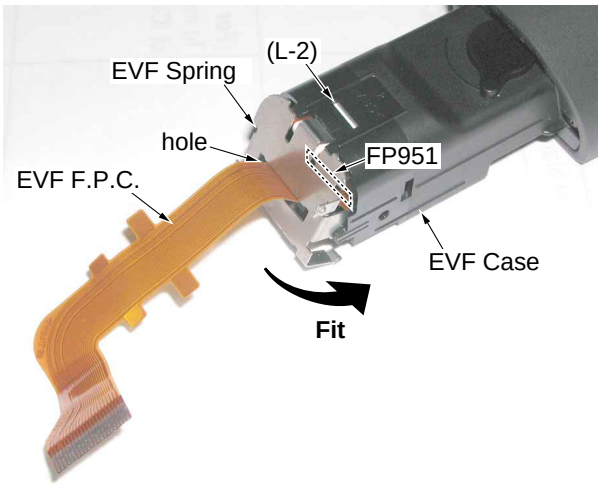


Fig. D17

18. **Removal of Eye Cap**
    Remove the Eye Cap after removing the 2 Screws (524).

19. **Handling cautions of EVF Lens Unit**
    Use extreme care when handling the EVF Lens Unit to avoid damage, dust, and spots (especially fingerprints, etc.)

    Installation of EVF Lens Unit, Eye Sight Lever
    1) Install the Eye Sight Lever into the EVF Case hole in the direction shown.
    2) Install the EVF Lens Unit into the EVF Case while grasping both sides of the springs with tweezers, etc.
    3) After installing, confirm the Eye Sight Lever and the EVF Lens Unit work together correctly.

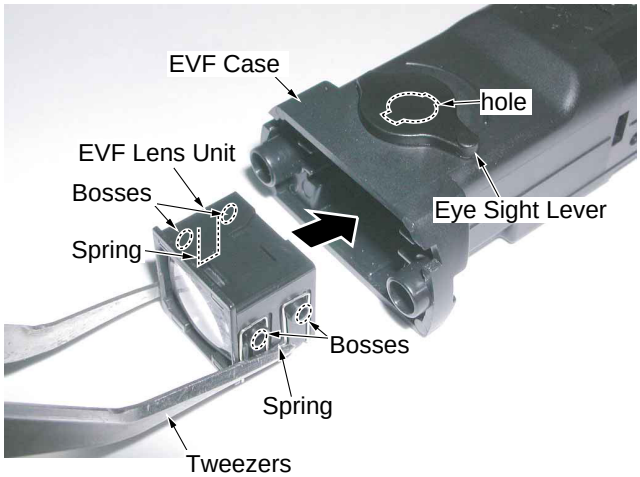


Fig. D19

7.2. MECHANISM SECTION

Flow-Chart for Disassembly Procedures

No.	Item / Part	Fig.	Removal (Screw, Connector, Flex. & Other)
1	Cassette Up Unit	Fig. M1 Fig. M2 Fig. M3 Fig. M4	It makes the mechanism position in Eject condition (For Battery) 3-Screws (A) 3-Tabs It remove the piece arrangement unit from rail department
2	Cylinder Unit	Fig. M5 Fig. M6	1-Screw (B) 3-Screw (C) Cylinder Unit

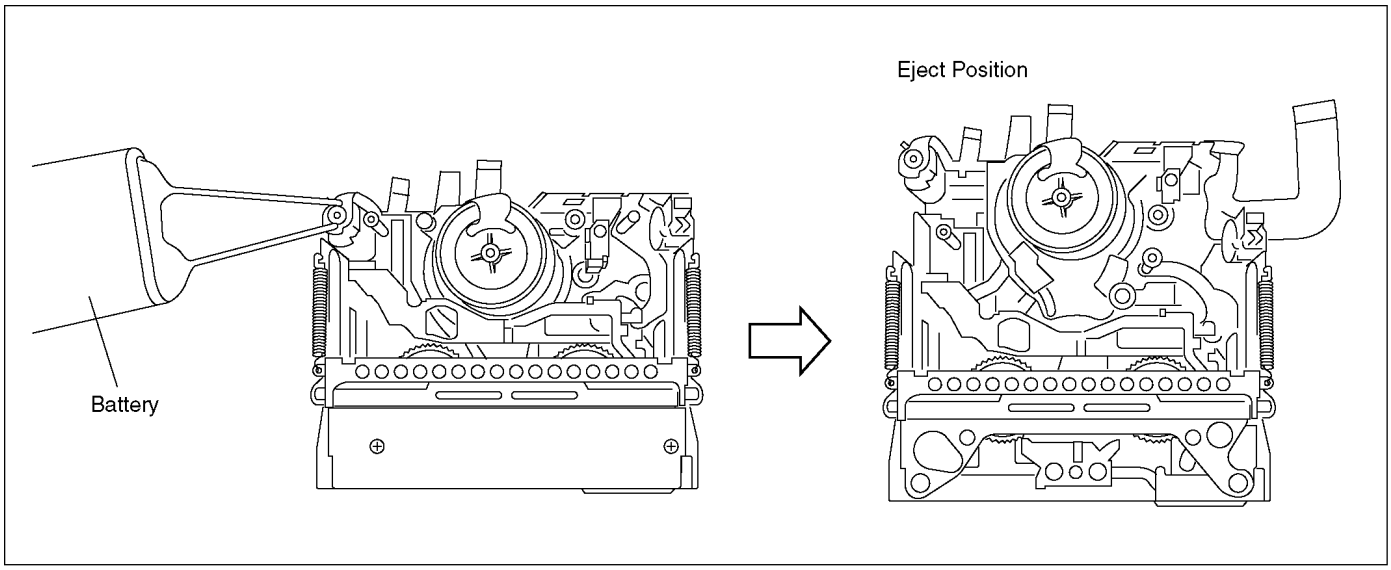


Fig. M1

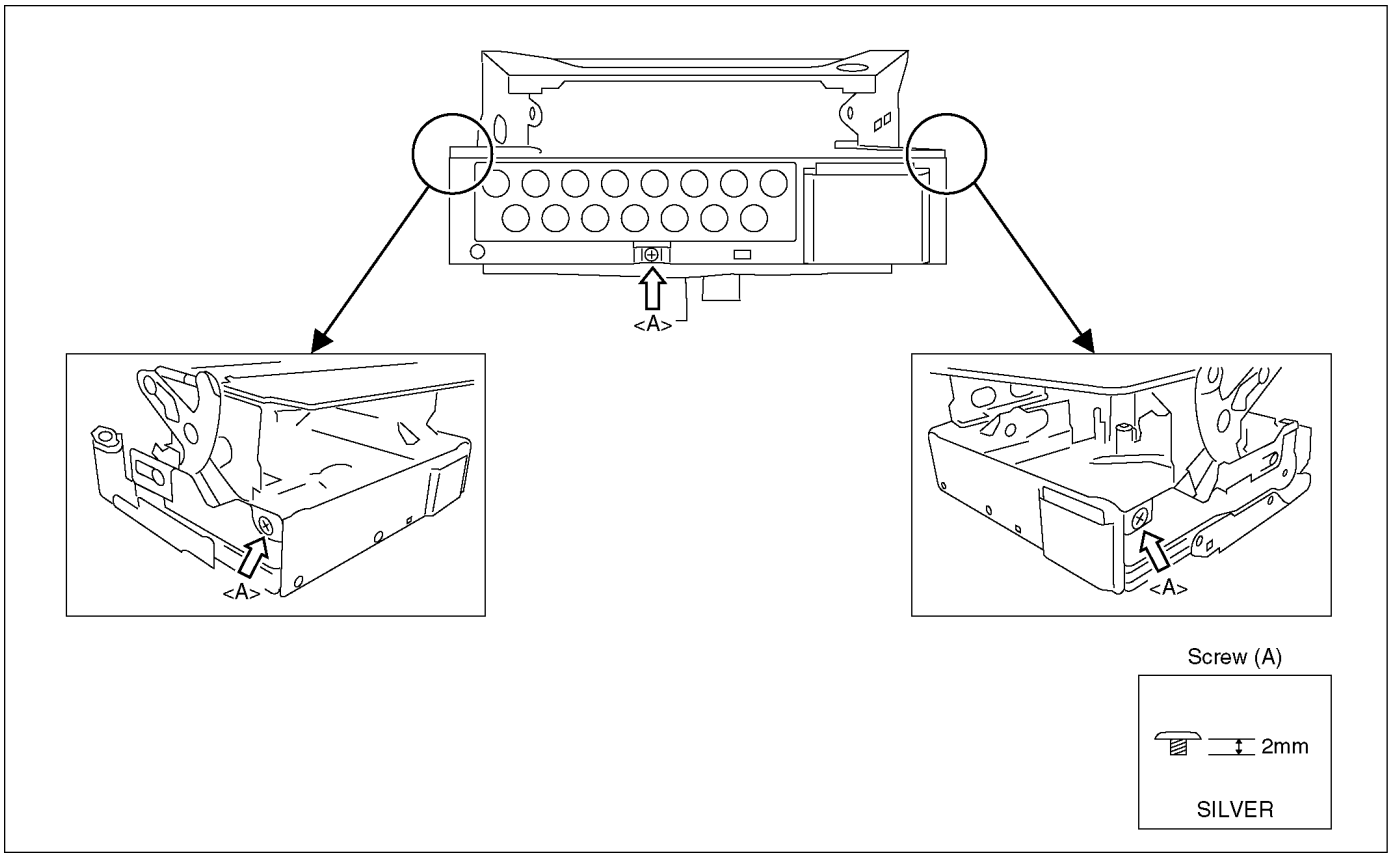


Fig. M2

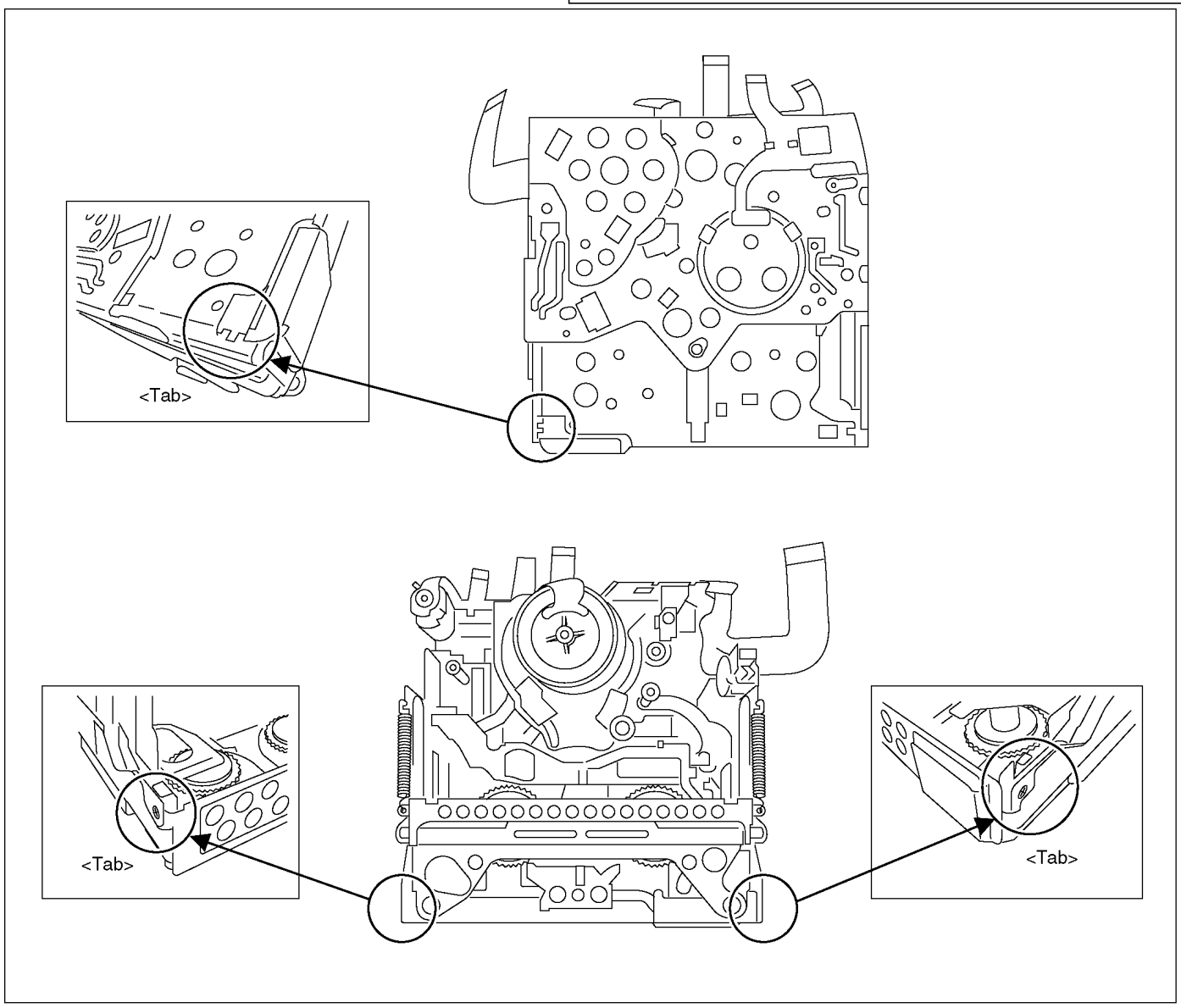


Fig. M3

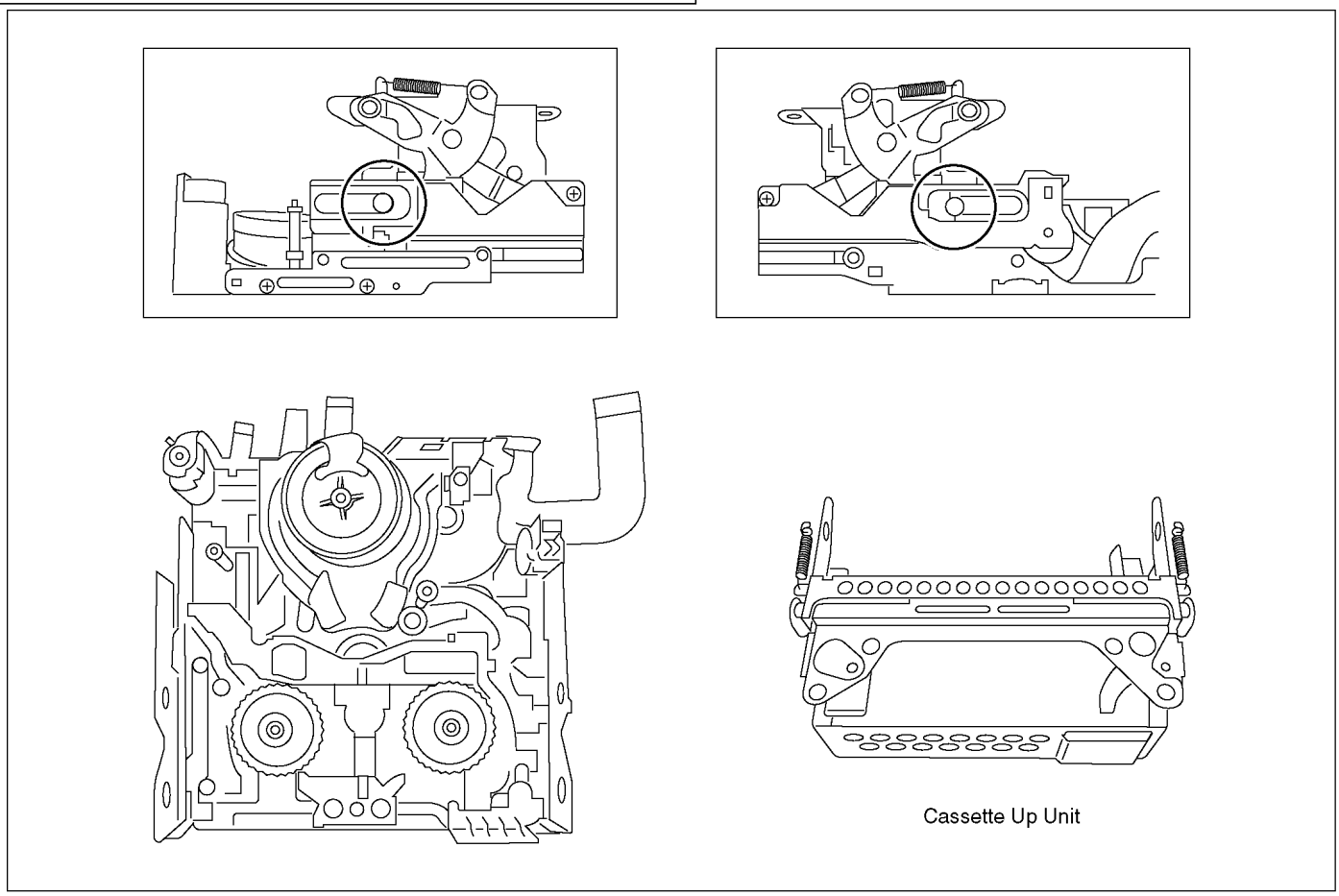


Fig. M4

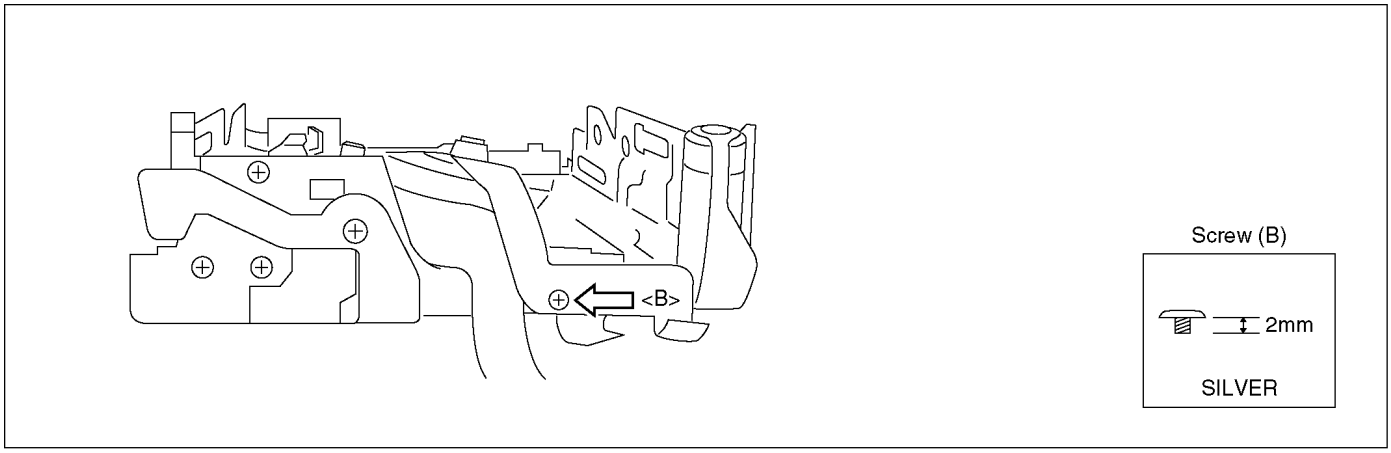


Fig. M5

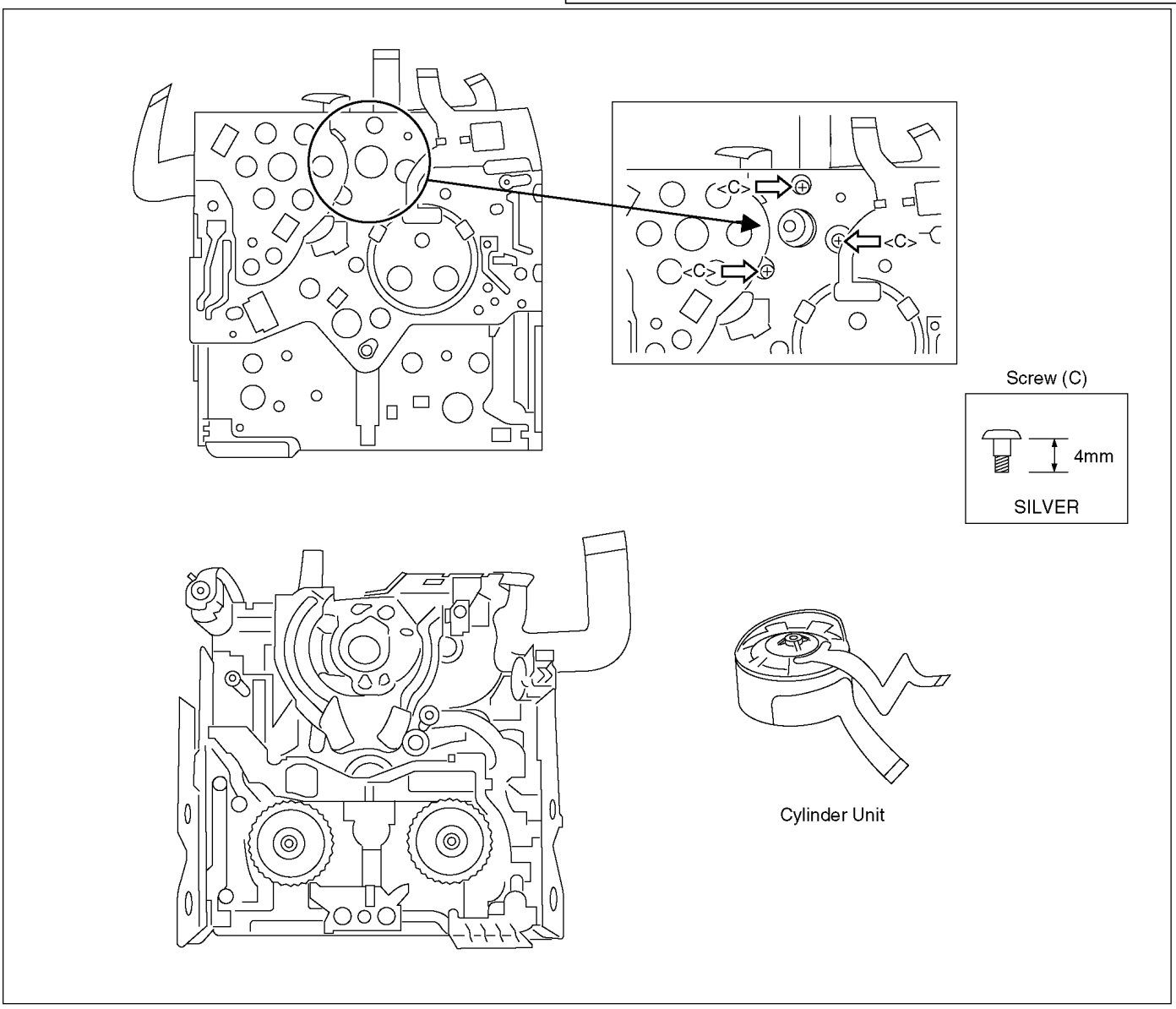
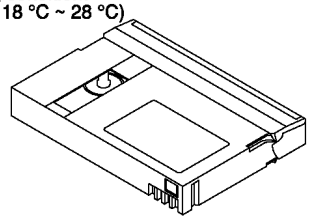
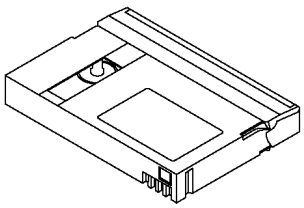
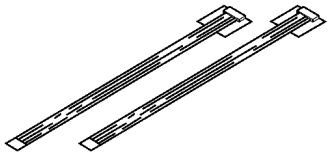
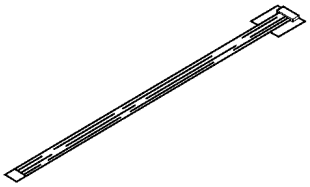
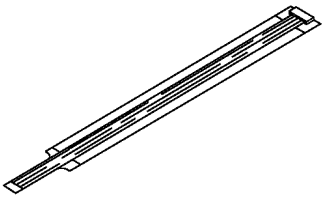
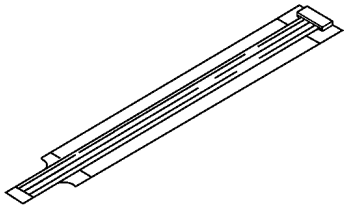
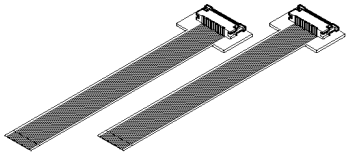
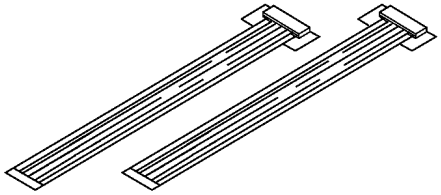


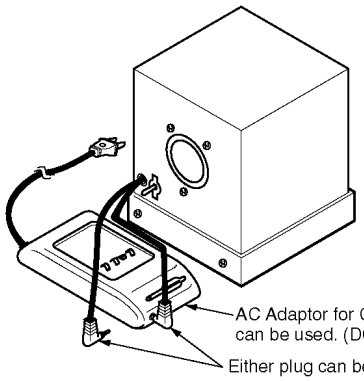
Fig. M6

8 ADJUSTMENT PROCEDURES

8.1. SERVICE FIXTURES & TOOLS

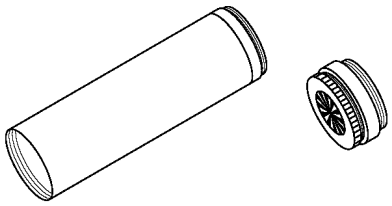
Color Bar Standard Tape VFM3010EDS (Keeping condition: Keep at 18 °C ~ 28 °C) 	DVC Head Cleaning Tape VFK1451 	Plier for Non ZIF Connector LSVQ0028
Grease LSUQ0050 	Extension Cable 8P (2 pcs) LSUA0019 	Extension Cable 10P LSUA0016 
Extension Cable 12P VUVS0007 	Extension Cable 14P VFKW0124A 	Extension Cable 18P (2 pcs) LSUA0017 
Extension Cable 22P (2 pcs) VUVS0012 		

Light Box and AC Adaptor VFK1164LBX1



(AC Adaptor is not supplied)

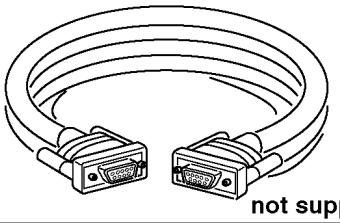
Infinity Lens (with Focus Chart) VFK1164TCM02



27mm Ring VFK1164TAR27

Color Conversion Filter (C14) VFK1164TFCT2

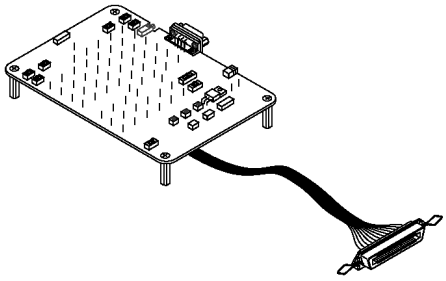
RS232C Cable



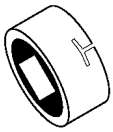
not supplied

Post Height Adjustment Fixture VFK1899

Interface Board for Electrical Adjustment LSUP0007



White Chart VFK1164TFWC2

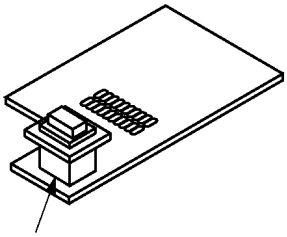


Color Bar Chart VFK1164TFCB2

Gray Scale Chart VFK1164TFGS2

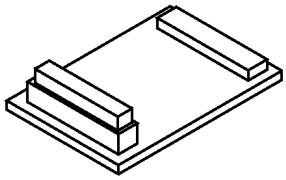
Connection Adaptor VFK1898

EVR Connector Board VFK1897

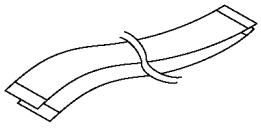


(With one Connection Adaptor)

EVR Connector Board VFK1309



30 pin Flat Cable (2 pcs) VFK1317

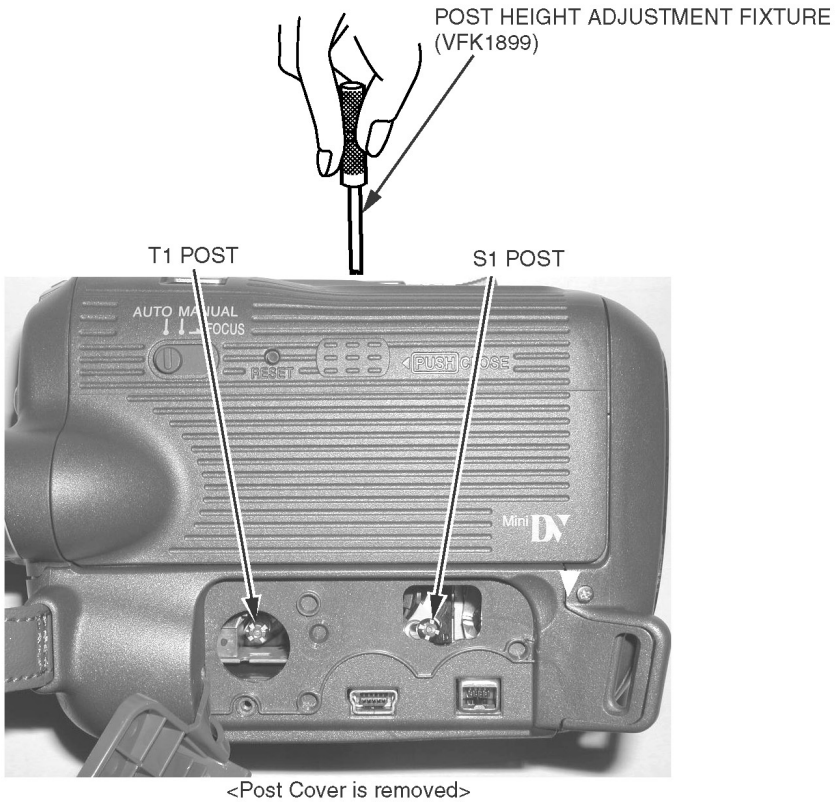


8.2. MECHANICAL ADJUSTMENT

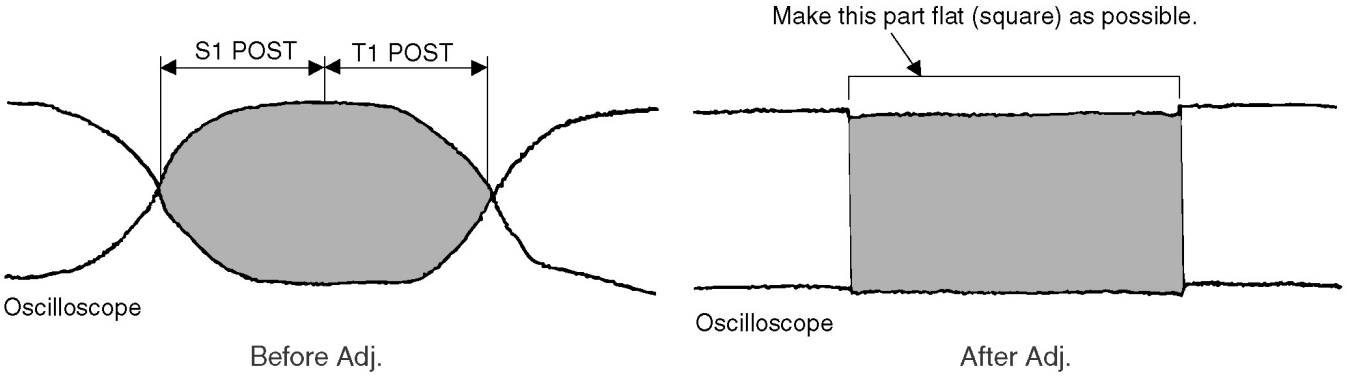
8.2.1. ENVELOPE OUTPUT ADJUSTMENT

When replacing the Main Chassis Unit or the Cylinder Unit, be sure to perform the Envelope Output Adjustment as shown below.

1. Open the L Cover. Then, insert a flat headed (-) screwdriver or similar object into the gap of the Post Cover, and remove it.
2. Connect the Camcorder and the Interface Board with the EVR Connector Boards, the Connection Adaptors and the 30 pin Flat Cables.
3. Connect the oscilloscope to "Envelope TP" on the Interface Board.
4. Playback the Color Bar Standard Tape (VFM3010EDS).
5. Adjust the S1 post by turning the top of post with Post Height Adjustment Fixture so that the left half of envelope signal becomes flat as possible.
6. Adjust the T1 post by turning the top of post with Post Height Adjustment Fixture so that the right half of envelope signal becomes flat as possible.



<Post Cover is removed>



Note:
After the adjustment, be sure to confirm BER (Bit Error Ratio) using EVR Adjustment Software.
If it is NG, try this adjustment once again.

8.3. ELECTRICAL ADJUSTMENT

8.3.1. INITIAL GUIDELINE

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

Adjustment Item \ Replacement Parts		MAIN C.B.A.	IC302 (CAMERA SIGNAL PROCESS)	IC701 (FOCUS/ZOOM MOTOR DRIVE & IRIS/HALL AMP CONTROL)	IC3001 (CAMERA DIGITAL SIGNAL PROCESS/SHUFFLING)	IC3101 (VIDEO/AUDIO SIGNAL PROCESS)	IC6001 (SYSTEM MICROCONTROLLER)	IC6002 (EEPROM)	LCD C.B.A.	IC8001(LCD RGB /EVF SIGNAL PROCESS)	CCD UNIT	LENS UNIT	CYLINDER UNIT	MAIN CHASSIS UNIT
Camera	CAM hall amplifier and Iris PWM	◯		◯			◯	◯				◯		
	CAM Zoom Tracking and De-focus	◯						◯				◯		
	CAM WB coarse	◯	◯		◯			◯			◯			
	CAM AWB 3100	◯	◯		◯			◯			◯			
	CAM AWB 5100	◯	◯		◯			◯			◯			
	CAM Revision CCD scrach	◯						◯			◯			
Video	VCR Sensitivity adj of Tape sensors	◯						◯						◯
	VCR PG shifter adjustment	◯						◯					◯	◯
	VCR Luminance level	◯			◯	◯		◯						
	VCR Chroma level	◯			◯	◯		◯						
LCD	LCD Contrast							◯		◯				
	LCD Bright							◯		◯				
	LCD Sub Bright							◯		◯				
	LCD VCOM level							◯		◯				
EVF	EVF Horizontal free running							◯		◯				
	EVF Contrast							◯		◯				
	EVF Bright							◯		◯				
	EVF Sub Bright							◯		◯				
	EVF VCOM leve							◯		◯				

Note: ◯ : Adjustment Item

8.3.2. TEST EQUIPMENT

1. Dual-Trace Oscilloscope
   Voltage Range: 0.001 to 50 V/Div.
   Frequency Range: DC to 50 MHz
   Probes: 10:1, 1:1
2. Frequency Counter
3. Vectorscope
4. Plastic Tip Driver
5. Personal Computer
   PC: IBM PC/AT or compatible
   OS: Microsoft® Windows®98 - Windows®XP
   CPU: 486 or higher
   Drive: 3.5 inch 1.44 MB floppy disk drive
   Port: D-Sub-9-pin Serial or D-Sub-25-pin Serial
   Monitor: VGA Color
6. PC-EVR Adjustment Program (VF0D2005DV10)
   Note:
   Ask for the latest version when placing an order for the PC-EVR Adjustment Program.
7. Interface Board (LSUP0007)
8. RS232C Cable
9. Connection Adaptor (VFK1898)
10. EVR Connector Board (VFK1897)
11. EVR Connector Board (VFK1309)
12. 30 pin Flat Cable (VFK1317)
13. Color Bar Standard Tape (VFM3010EDS)
    (Keeping condition: Keep at 18 °C ~ 28 °C)
14. Gray Scale Chart (VFK1164TFGS2)
15. White Chart (VFK1164TFWC2)
16. Color Bar Chart (VFK1164TFCB2)
17. Light Box and AC Adaptor (for VHS-C)
18. Infinity Lens (with Focus Chart) (VFK1164TCM02)
19. AC Adaptor (for DVC)
20. 27 mm Ring (VFK1164TAR27)
21. Color Conversion Filter (C14) (VFK1164TFCT2)

8.3.3. PREPARATION

1. Insert a flat headed (-) screwdriver or similar object, remove the EVR Cover.
2. Connect the Connection Adaptor and the 2 EVR Connector Boards. Then, connect the 30 pin Flat Cables to P101 and P102 on the Interface Board.

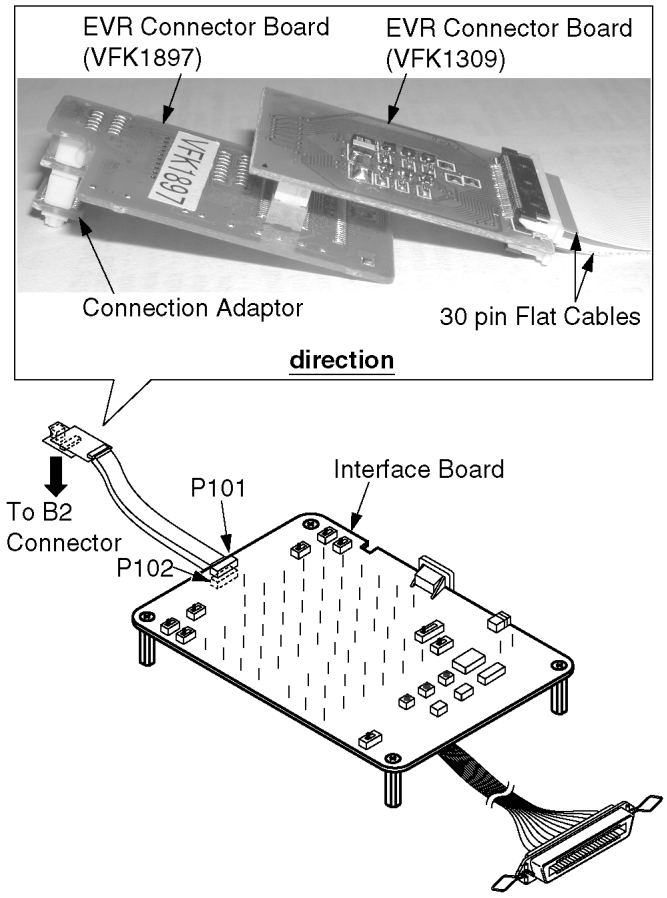


Fig. E1-1

Note:

When connecting them, pay attention to the direction of them.

3. Connect them to the Connector B2 on the Main C.B.A.

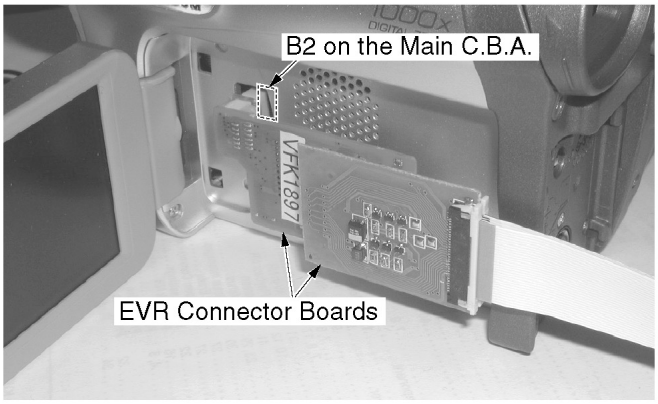


Fig. E1-2

4. Connect the AC Adaptor to the camcorder.
5. Connect the P106 on the Interface Board to RS232C of the PC with Inter Link Cable.
6. Set the SW115 (M103 EXMOD1) on the Interface Board to "GND."
7. Set the SW110 (RS232C SEL) on the Interface Board to "M3."
8. Set the SW114 (M103 VPP) on the Interface Board to "3V."
9. Set the SW103 (RECI) on the Interface Board to "OFF."
10. Set the SW108 (BST TEST) on the Interface Board to "OFF."
11. Set the SW109 (IRIS) on the Interface Board to center.
12. Set the SW111 (5V SEL) on the Interface Board to "CAM 5V."
13. Set the SW113 (POWER ON) on the Interface Board to "NORM."
14. Power on the unit.

<Computer Assisted Adjustment System>

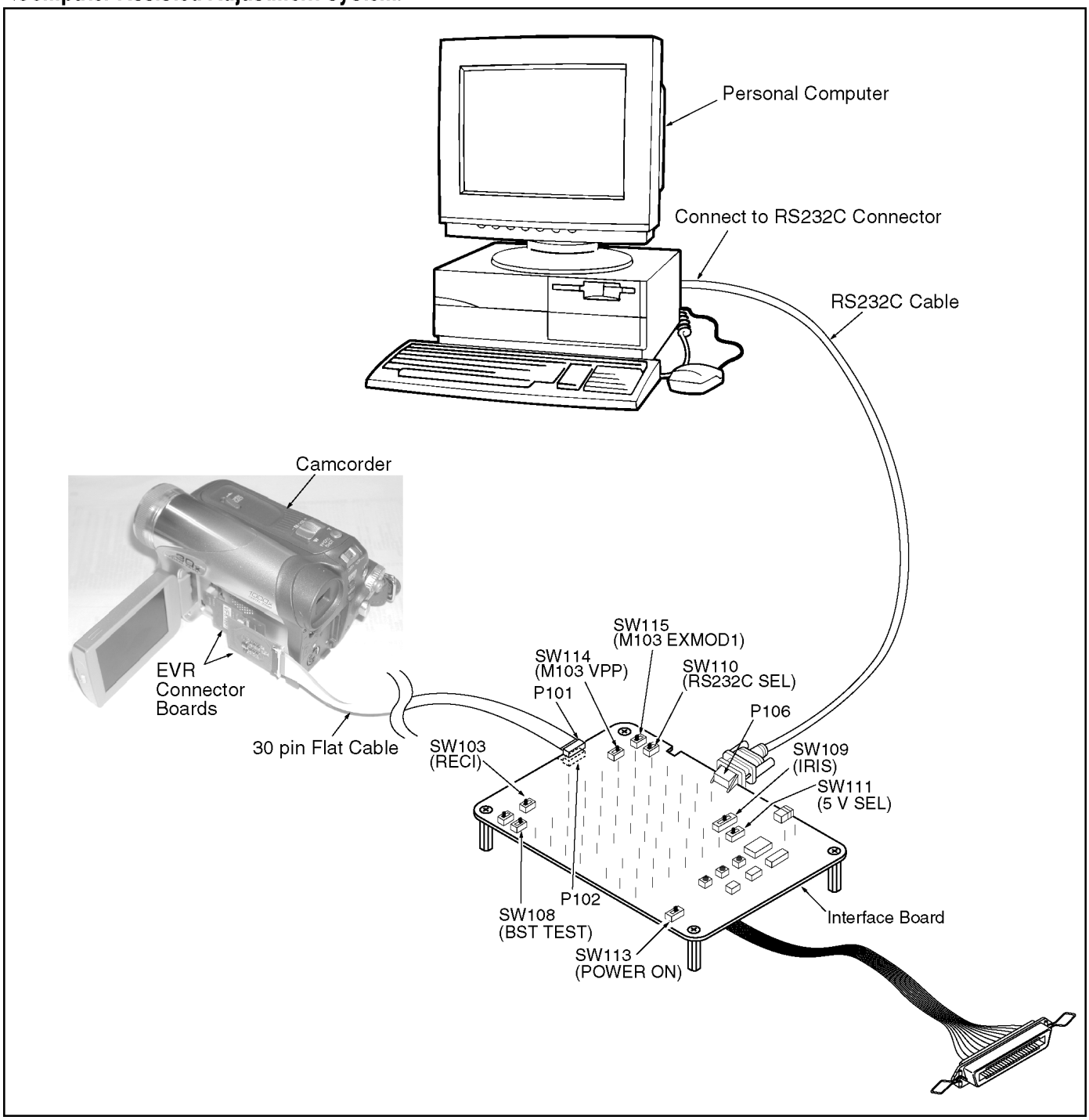
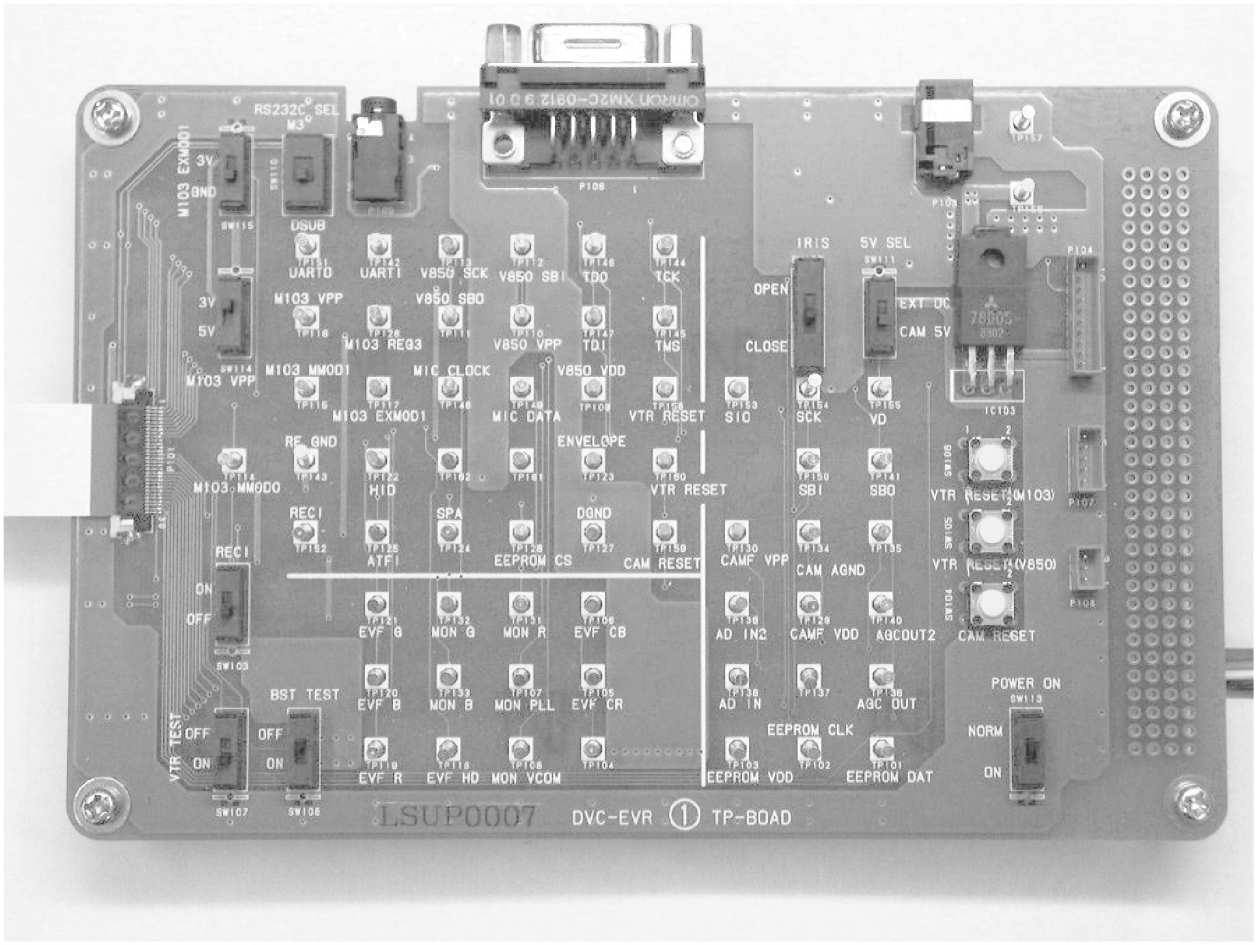


Fig. E1-3

8.3.4. TP Board Location



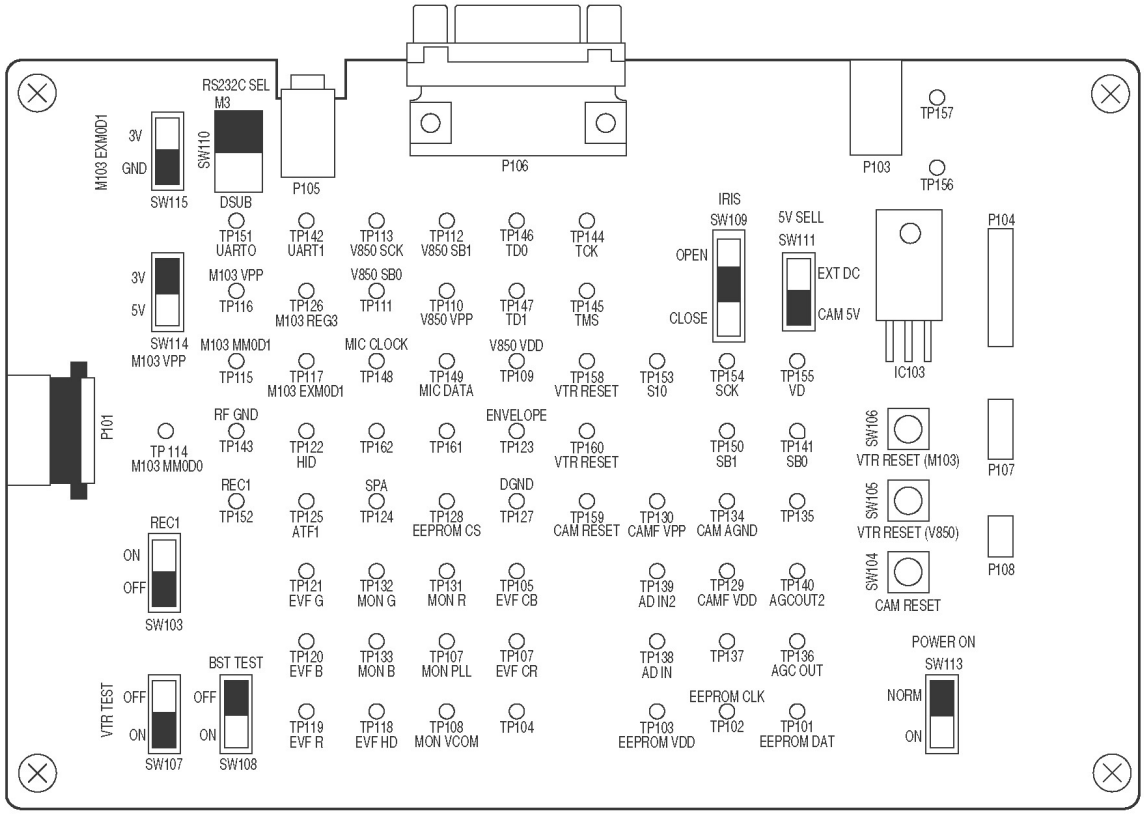


Fig. E1-4

8.3.5. SET UP OF PC-EVR ADJUSTMENT PROGRAM

1. Turn on the PC and install the PC-EVR Adjustment Program into the PC.
2. Execute the "kdv2005.exe" file by double clicking to start up the PC-EVR Adjustment Program.

   The main menu will be displayed.
3. Select the desired model.
4. Turn on the camcorder. Then click "Start."

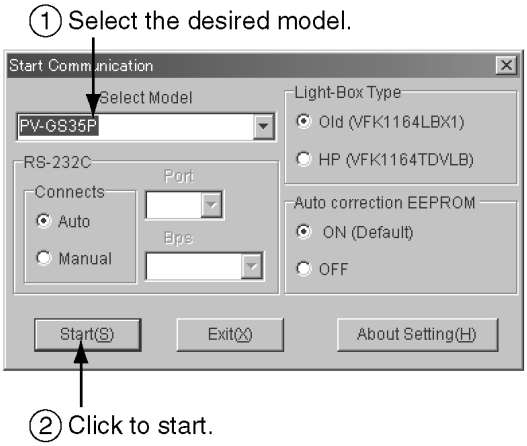


Fig. E2-1

5. When the communication is complete, the dialog will appear.

   Then, click "Yes," and "Save" to save the EEPROM data.

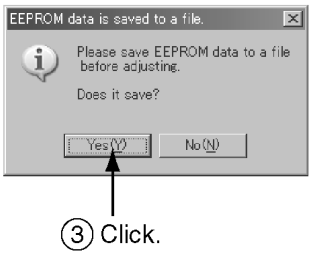


Fig. E2-2

6. When saving for EEPROM data is complete, the menu will appear.

   To perform each adjustment, display the adjustment menu by selecting the desired menu from "Camera Adjust," "Vcr Adjust," "LCD Adjust" or "EVF Adjust" and select each adjustment item.

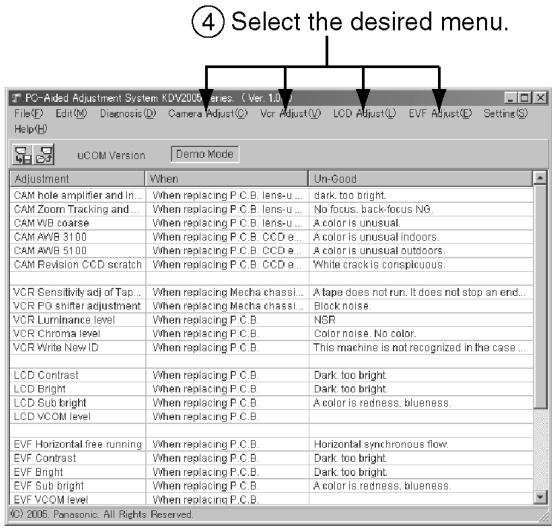


Fig. E2-3

Note:

The adjusted data is stored in the EEPROM IC after each adjustment.

7. After adjustment, to close the software, select "Exit" in the File menu or close the window.

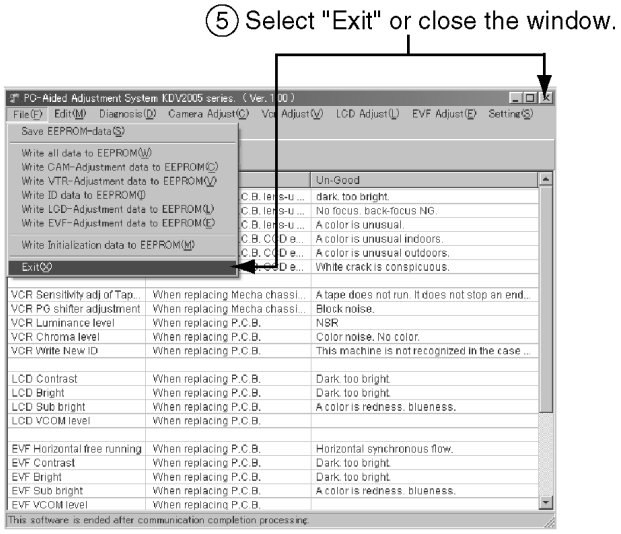


Fig. E2-4

9 SCHEMATIC DIAGRAMS

9.1. SCHEMATIC DIAGRAM & CIRCUIT BOARD LAYOUT NOTES

1. **Important safety notice**

   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering.
   The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information

   ○ : Test point with no test pin.

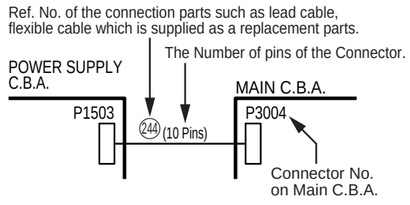
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

   Example:
   (6.2V).....Zener Voltage

2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to,
   in other words, its counter part.
   Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between C.B.A.s are shown below.

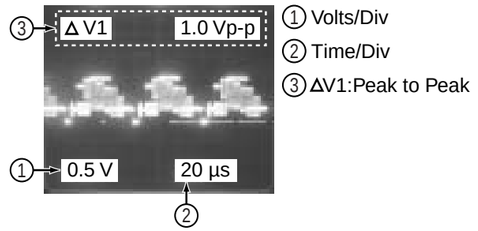

Ref. No. of the connection parts such as lead cable, flexible cable which is supplied as a replacement parts.
The Number of pins of the Connector.
POWER SUPPLY C.B.A.
MAIN C.B.A.
P1503
(244) (10 Pins)
P3004
Connector No. on Main C.B.A.

3. Parts marked "PT" are not used in any models included in this service model.

Example: C6011 100P PT — C6011 PT — R6097 PT

Signal Waveform Note

How to read Signal Waveform



Voltage Chart Note

Voltage Measurement
a. Color bar signal in SP mode.
b. ---:Unmeasurable or not necessary to measure.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

Model No. Identification Mark

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT

Note : Refer to item 3 of Schematic Diagram Notes for mark "PT".

9.2. MAIN SCHEMATIC DIAGRAMS

MAIN I SCHEMATIC DIAGRAM

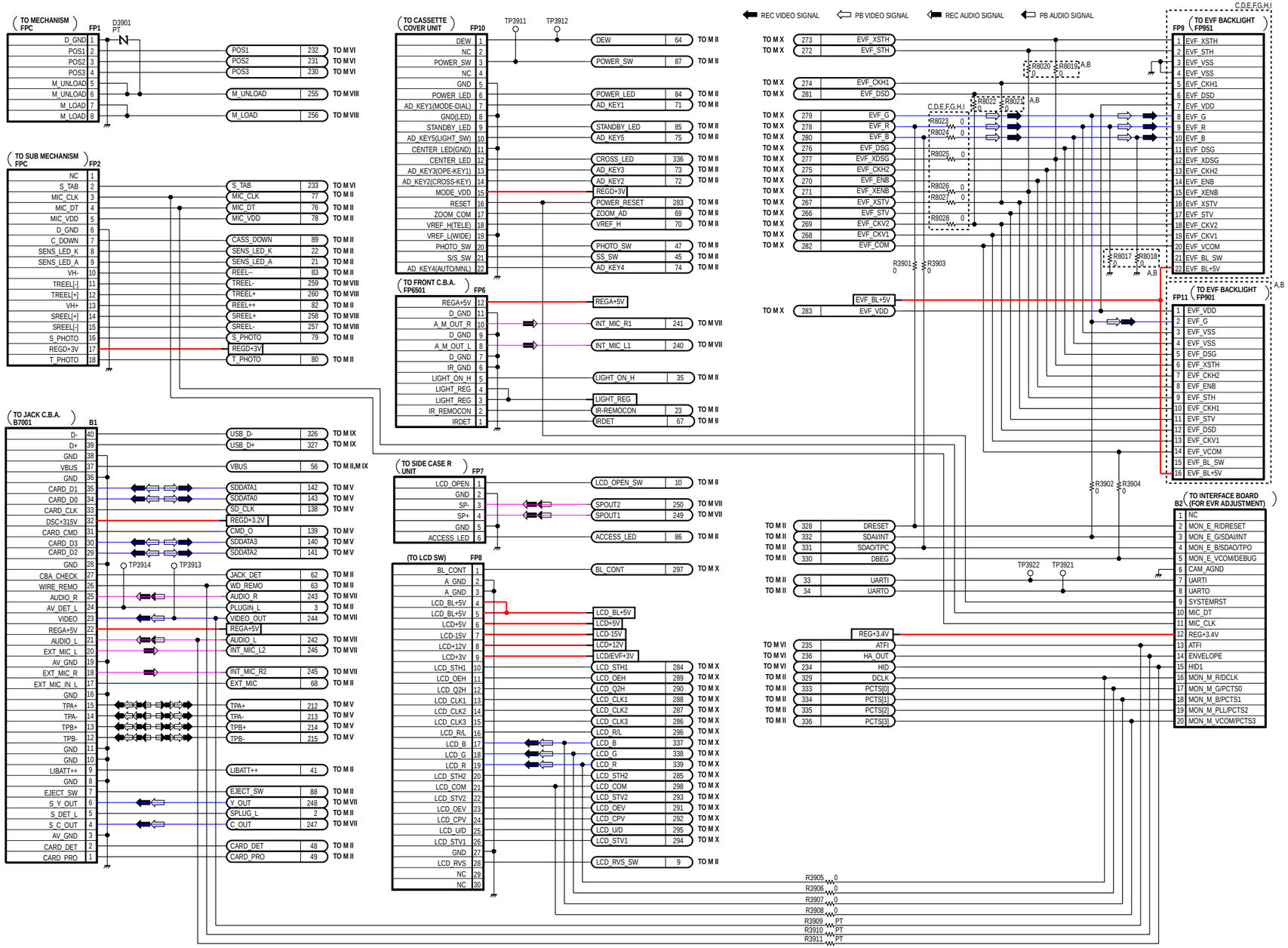
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



LINK TO VOLTAGE CHART

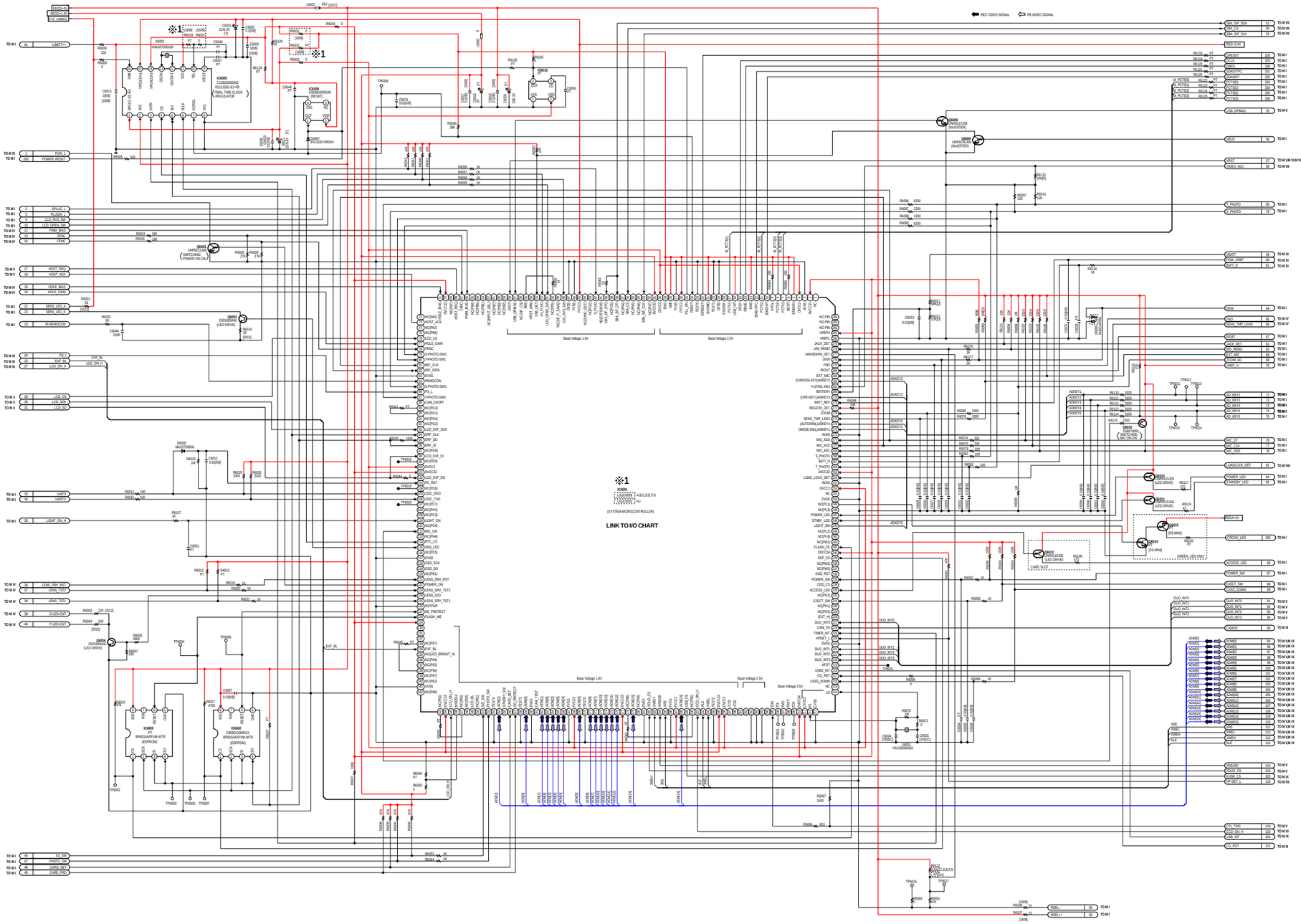
LSJB8295
MAIN I SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN II SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.



※1

IC6001 replacement note:

Two types of IC6001 (FLASH or MASK) are used on a running change basis, however MASK TYPE of IC6001 is supplied only as a replacement part. And MASK TYPE of IC6001 is supplied as IC6001 Kit with R6022 and R6031.

Types of IC6001

FLASH TYPE	TMP1962F1DXBG Head Mark
MASK TYPE	TMP1962F1DXBG 0100 Head Mark 0100: LSUC0028 0101: LSUC0025

Perform the addtion (R6022 and R6031) and also deletion (R6019 and R6032) of the following part simultaneously, when exchanging from the "FLASH TYPE" to the "MASK TYPE" of IC6001.

	FLASH TYPE	MASK TYPE		
Ref No.	Part No.	Part No.	Part Name	Models
IC6001	- - - - - - - - - -	LSUC0028 (IC6001, R6022 and R6031 are included)	IC6001 Kit	A,B,C,D, E,F,G
IC6001	- - - - - - - - - -	LSUC0025 (IC6001, R6022 and R6031 are included)	IC6001 Kit	H,I
R6019	ERJ3GEY0R00V	- - - - - - - - - -	Resistor	
R6022	- - - - - - - - - -	ERJ3GEY0R00V	Resistor	
R6031	- - - - - - - - - -	ERJ3GEY0R00V	Resistor	
R6032	ERJ3GEY0R00V	- - - - - - - - - -	Resistor	

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT

LINK TO VOLTAGE CHART
LSJB8295
MAIN II SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

I/O CHART OF IC6001

Pin No.	I/O	Signal Name	Description
1	---	NC	(Not used)
2	I	AVCC31	+2.8V
3	---	AVSS	Ground
4	I	DVCC2	+2.4V
5	---	ENDIAN	(Not used)
6	---	BOOT	(Not used)
7	O	PCTS3	(Not used)
8	O	PCTS0	(Not used)
9	---	INTLV	(Not used)
10	---	SDI / DINT	(Not used)
11	O	PCTS2	(Not used)
12	---	SDAO / TPC	(Not used)
13	---	BW0	(Not used)
14	---	/DBGE	(Not used)
15	---	DCLK	(Not used)
16	---	USB INT	(Not used)
17	O	PCTS1	(Not used)
18	---	SYSRDY	(Not used)
19	---	DVSS	Ground
20	---	TEST1	(Not used)
21	---	BUSMD	(Not used)
22	---	/DRESET	(Not used)
23	---	TEST5	(Not used)
24	I	RESET	Reset : Low
25	---	PLL ON	(Not used)
26	I	FVCC2	+2.4V
27	---	FVSS	Ground
28	---	NMI	(Not used)
29	---	BW1	(Not used)
30	I	DVCC2	+2.4V
31	I	DVCC31	+1.8V
32	---	NC	(Not used)
33	O	SBA SIF CLK	Sub Audio / SIF Serial Clock
34	---	NC	(Not used)
35	---	NC	(Not used)
36	O	SBA CS	Sub Audio Chip Select
37	---	NC	(Not used)
38	I	SBA SIF DTI	Sub Audio / SIF Serial Data
39	---	NC	(Not used)
40	O	SBA SIF DTO	Sub Audio / SIF Serial Data
41	---	NC	(Not used)
42	I	S PLUG	S-Video In Defect : Low
43	---	NC	(Not used)
44	---	NC	(Not used)
45	I	FVCC3	+3.4V
46	---	FVSS	Ground
47	---	DVSS	Ground
48	I	LCD RVS SW	LCD Reverse : Low
49	---	NC	(Not used)
50	---	NC	(Not used)
51	I	LCD OPEN SW	LCD Open : Low
52	I	AV PLUG	A/V Input Detect : Low
53	I	USB DET	USB Input Detect : Low
54	---	XRST ARM	(Not used)
55	---	ARB	(Not used)
56	---	NC	(Not used)
57	O	USB DPBIAS	USB Bias Addition
58	O	XRST	Reset : Low
59	---	NC	(Not used)
60	---	NC	(Not used)
61	---	NC	(Not used)
62	---	NC	(Not used)
63	---	NC	(Not used)
64	---	NC	(Not used)
65	---	NC	(Not used)
66	O	PWM BIAS	PWM Bias Control
67	I	ZENC	Zoom Encoder
68	I	HOST REQ	Request from DMA
69	---	NC	(Not used)
70	I	DVCC32	+2.8V
71	O	HOLE BIAS	Hall Bias Control

Pin No.	I/O	Signal Name	Description
72	---	NC	(Not used)
73	O	HOST ACK	Acknowledge for DMA
74	---	NC	(Not used)
75	---	NC	(Not used)
76	O	LCD CS	LCD Chip Select
77	O	HOLE GAIN	Hall Amp Gain Control
78	I	FENC	Focus Encoder
79	O	S-PHOTO-SW2	Supply Photo TR Switch 2
80	O	T-PHOTO-SW1	Takeup Photo TR Switch 1
81	O	MIC CLK	MIC Serial Clock
82	I/O	MIC DATA	MIC Serial Data
83	---	DVSS	Ground
84	I	REMOCON	IR Remote Control Data
85	O	S-PHOTO-SW1	Supply Photo TR Switch 1
86	O	PS L	Power Save : Low
87	O	T-PHOTO-SW2	Takeup Photo TR Switch 2
88	---	CAM D3OFF	(Not used)
89	---	NC	(Not used)
90	---	NC	(Not used)
91	---	NC	(Not used)
92	---	NC	(Not used)
93	O	LCD EVF SCK	LCD / EVF Serial Clock
94	O	ERF CLK	Serial Clock
95	O	ERF DO	Serial Data 0
96	I	ERF DI	Serial Data 1
97	---	NC	(Not used)
98	I	LCD EVF DI	LCD / EVF Serial Data
99	---	NC	(Not used)
100	I	DVCC2	+2.4V
101	I	DVCC32	+2.8V
102	O	LCD EVF DO	LCD / EVF Serial Data
103	I	PC RST	RS-232C Reset
104	---	NC	(Not used)
105	I	232C RXD	RS-232C Received Data
106	O	232C TXD	RS-232C Transmitted Data
107	---	NC	(Not used)
108	---	NC	(Not used)
109	---	NC	(Not used)
110	O	LIGHT ON	Light On : High
111	---	NC	(Not used)
112	O	MIC ON	MIC Power On : Low
113	---	NC	(Not used)
114	O	RTC CS	Timer Chip Select
115	O	SNS LED	Sensor LED On : High
116	---	NC	(Not used)
117	---	DVSS	Ground
118	---	OSD SCK	(Not used)
119	---	OSD DO	(Not used)
120	---	NC	(Not used)
121	O	LENS DRV RST	IC701 Reset
122	O	POWER ON	Power On : High
123	I	LENS DRV TST2	Lens Drive Test 2
124	O	LENS LED	LED Control
125	I	LENS DRV TST1	Lens Drive Test 1
126	---	RSTPUP	(Not used)
127	O	EE PROTECT	EEPROM Write Protect
128	O	FLASH WE	EEPROM Write Enable
129	I	DVCC32	+2.8V
130	---	EVF ON H	(Not used)
131	---	NC	(Not used)
132	---	NC	(Not used)
133	---	NC	(Not used)
134	O	EVF BL	EVF Backlight On : High
135	---	NC	(Not used)
136	---	NC	(Not used)
137	---	NC	(Not used)
138	---	NC	(Not used)
139	---	NC	(Not used)
140	---	NC	(Not used)
141	---	DVSS	Ground
142	---	NC	(Not used)

Pin No.	I/O	Signal Name	Description
143	---	NC	(Not used)
144	I	DVCC33	+1.8V
145	O	LCD ON H	LCD Power On : High
146	---	MODE14	(Not used)
147	---	NC	(Not used)
148	---	NC	(Not used)
149	---	LCD BL	(Not used)
150	---	NC	(Not used)
151	I	S/S SW	REC / Pause SW On : Low
152	I	PHOTO SW	Photo SW On : Low
153	---	TEST4	(Not used)
154	I/O	ADM[2]	Address / Data 2
155	---	STNDBY SW	(Not used)
156	I	CARD DET	SD Card Detect
157	I	SD PROTECT	SD Card Protect
158	---	TEST3	(Not used)
159	I/O	ADM[0]	Address / Data 0
160	---	DVSS	Ground
161	---	CAM TEST	(Not used)
162	I/O	ADM[1]	Address / Data 1
163	I/O	ADM[6]	Address / Data 6
164	I/O	ADM[3]	Address / Data 3
165	I/O	ADM[5]	Address / Data 5
166	I/O	ADM[4]	Address / Data 4
167	---	FVSS	Ground
168	I	FVCC2	+2.4V
169	I/O	ADM[9]	Address / Data 9
170	---	TEST0	(Not used)
171	I/O	ADM[8]	Address / Data 8
172	I/O	ADM[7]	Address / Data 7
173	I/O	ADM[10]	Address / Data 10
174	I/O	ADM[13]	Address / Data 13
175	I/O	ADM[11]	Address / Data 11
176	I/O	ADM[12]	Address / Data 12
177	I	DVCC33	+1.8V
178	---	NC	(Not used)
179	I/O	ADM[15]	Address / Data 15
180	---	NC	(Not used)
181	---	DVSS	Ground
182	O	XDUO CS	IC3001 Chip Select
183	O	XWEH	Write Enable : Low
184	O	XREADY	Ready : Low
185	O	XRE	Read Enable : Low
186	---	FVSS	Ground
187	I	FVCC2	+2.4V
188	I/O	ADM[14]	Address / Data 14
189	---	USB CS	(Not used)
190	---	NC	(Not used)
191	O	CCD ON H	CCD Power On : High
192	O	ALE	Latch Enable
193	O	XWEL	White Enable : Low
194	---	TEST2	(Not used)
195	I	DVCC33	+1.8V
196	I	DVCC2	+2.4V
197	---	ICS3	(Not used)
198	---	ICS2	(Not used)
199	---	NC	(Not used)
200	---	XT1	(Not used)
201	---	CVCCH	(Not used)
202	---	CAP1	(Not used)
203	---	CAP2	(Not used)
204	---	XT2	(Not used)
205	O	TDO	Test Data
206	---	TDI	Test Point
207	---	TMS	Test Point
208	---	TRST	(Not used)
209	---	TCK	Test Point
210	I	DVCC34	+2.8V
211	I	CVCC2	+2.4V
212	I	X1	13.5MHz Clock
213	---	CVSS	Ground

Pin No.	I/O	Signal Name	Description
214	O	X2	13.5MHz Clock
215	---	NC	(Not used)
216	I	CASS DOWN	Cassette Down : Low
217	O	CG RST	IC302 Reset
218	---	USB2 INT	USB Interrupt
219	---	AFST	(Not used)
220	I	DUO INT3	IC3001 Interrupt 3
221	I	DUO INT2	IC3001 Interrupt 2
222	I	DUO INT1	IC3001 Interrupt 1
223	---	DVSS	Ground
224	I	HPDET L	Headphone Detect : Low
225	I	TIMER INT	Timer Interrupt
226	I	CAM VD	Camera V-sync
227	I	DUO INT0	IC3001 Interrupt 0
228	---	EXT H	(Not used)
229	---	NC	(Not used)
230	---	NC	(Not used)
231	I	EJECT SW	Eject SW On : Low
232	---	NC	(Not used)
233	O	ACCESS LED	Access LED On : Low
234	---	OSD CS	(Not used)
235	I	POWER SW	Power SW On : Low
236	---	OSD RST	(Not used)
237	---	NC	(Not used)
238	---	NC	(Not used)
239	O	EEP CS	IC 6002 Chip Select
240	I	DVCC34	+2.8V
241	O	FLASH CE	IC 6009 Chip Select
242	---	NC	(Not used)
243	---	NC	(Not used)
244	---	NC	(Not used)
245	I	LIGHT SW	Light SW On : Low
246	O	STNDBY LED	Standby LED On : Low
247	O	POWER LED	Power LED On : Low
248	---	NC	(Not used)
249	O	CROSS LED	CROSS LED ON : High
250	---	DVSS	Ground
251	---	NC	(Not used)
252	I	DVCC2	+2.4V
253	---	AVSS	Ground
254	I	LOAD LOCK DET	Loading Lock Detect
255	I	AVCC32	+2.8V
256	I	T PHOTO	Takeup Photo TR On : Low
257	I	BATT D	Battery Detect
258	I	S PHOTO	Supply Photo TR On : Low
259	I	MIC AD1	MIC On : High
260	I	MIC AD2	MIC Serial Clock
261	I	MIC AD3	MIC Serial Data
262	---	AVSS	Ground
263	I	ADKEY 1	ANALOG KEY INPUT
264	I	ADKEY 4	ANALOG KEY INPUT
265	I	SENSE TMP LENS	Lens Temperature Sensor
266	I	ZOOM	ANALOG KEY INPUT
267	I	REGD3V DET	+3V Detect
268	I	BATT REF	V-Ref for Battery
269	I	ADKEY 3	ANALOG KEY INPUT
270	I	BATTERY	Battery Voltage Detect
271	I	Y LEVEL ADJ	Y LEVEL ADJUST
272	I	ADKEY 2	ANALOG KEY INPUT
273	I	EXT MIC	EXT MIC In Detect : Low
274	I	IROUT	IR Detect
275	I	FNO	F Number
276	I	DEW	Dew Sensor
277	I	HANSEIHW DET	(Not used)
278	I	UNI REMO	Wired Remote Control Data
279	I	JACK DET	JACK Detect
280	---	VREFL	V-Ref Low (0V)
281	I	VREFH	V-Ref High (+2.8V)
282	---	NO PIN	(Not used)
283	---	NO PIN	(Not used)
284	---	NO PIN	(Not used)

I/O CHART OF IC6002

Pin No.	I/O	Signal Name	Description
1	I	CS	EEPROM chip select
2	I	SCK	EEPROM serial clock
3	I	SI	EEPROM serial data 0
4	O	SO	EEPROM serial data 1
5	-	GND	Ground
6	I	RESET	EPROM write protect
7	-	R/B	(Not used)
8	I	VDD	+3.0V

MAIN III SCHEMATIC DIAGRAM

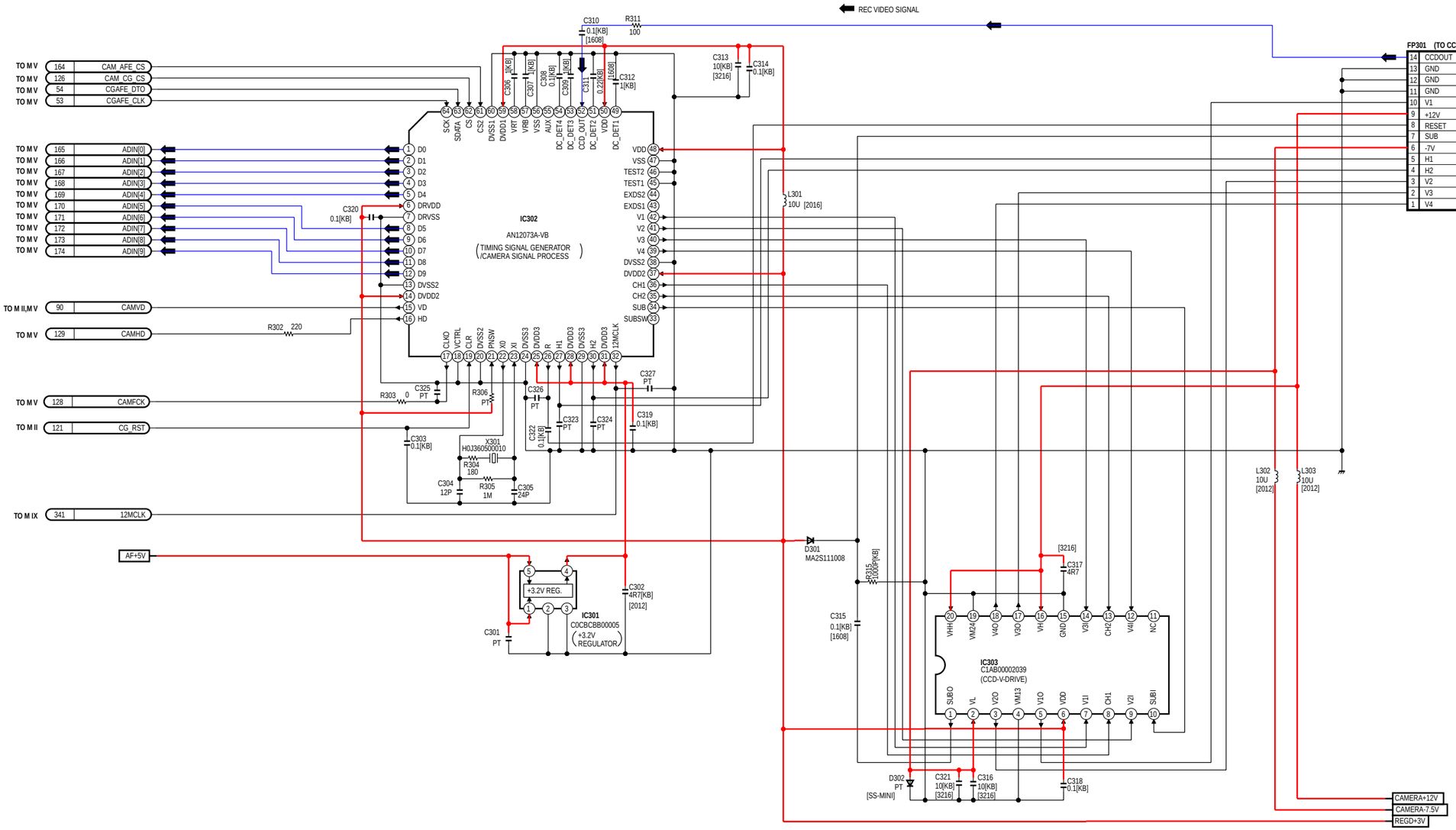
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

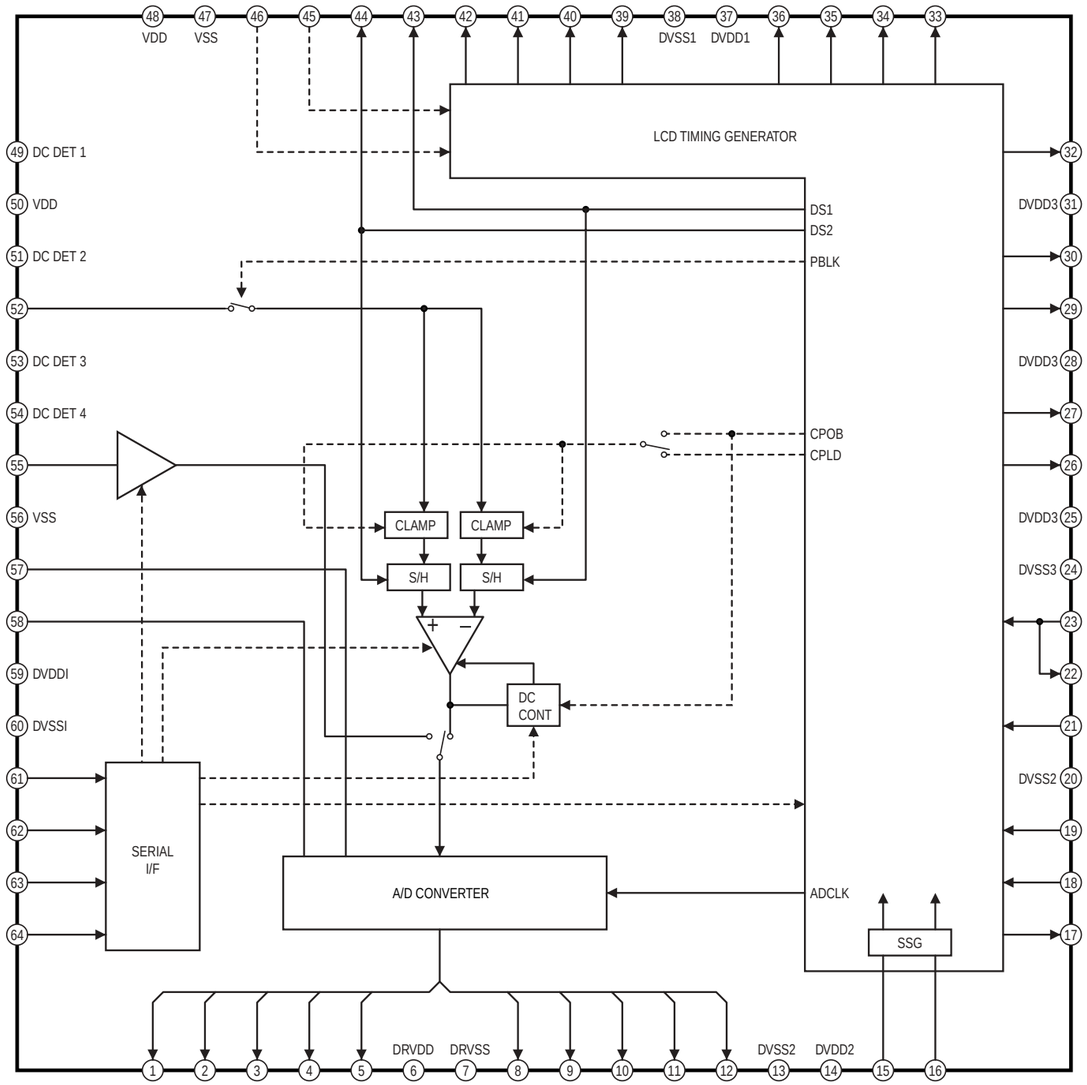
MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



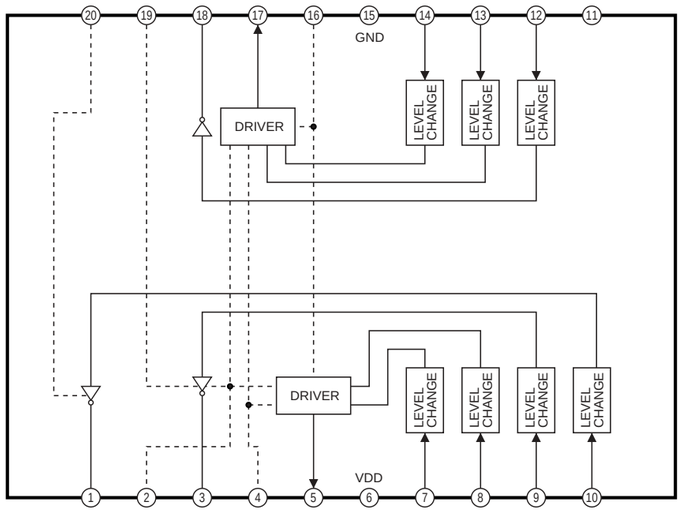
LINK TO VOLTAGE CHART

LSJB8295
MAIN III SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

IC302 IC- DETAIL BLOCK DIAGRAM



IC303 IC- DETAIL BLOCK DIAGRAM



IC302 IC-DETAIL BLOCK DIAGRAM
IC303 IC-DETAIL BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN IV SCHEMATIC DIAGRAM

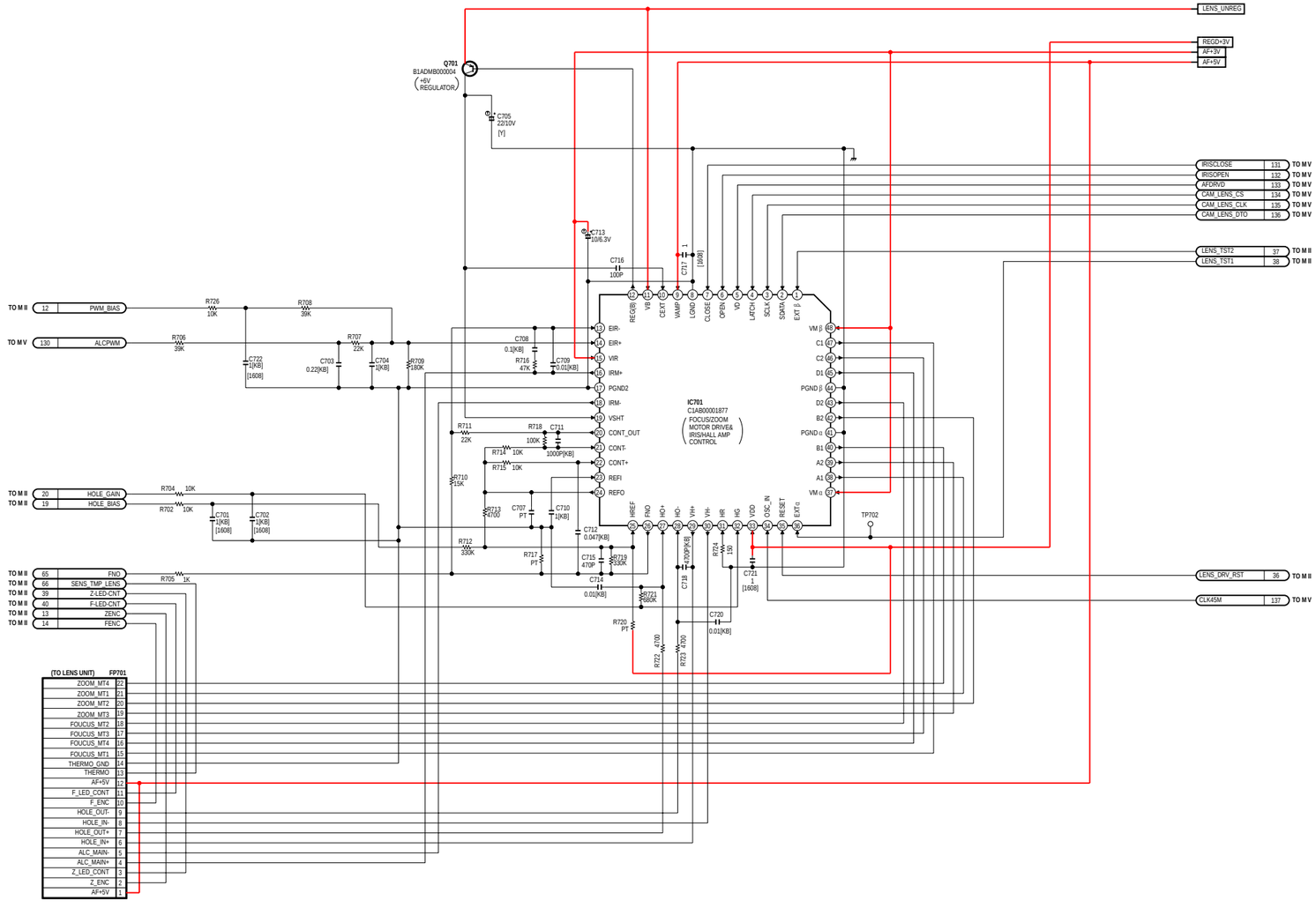
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

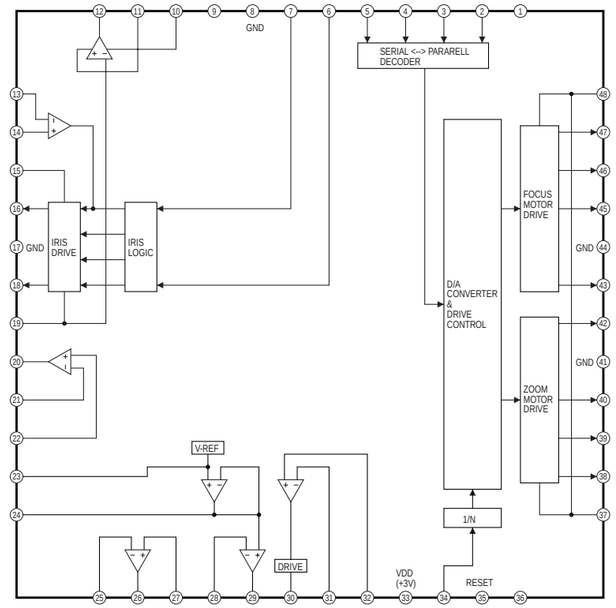
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



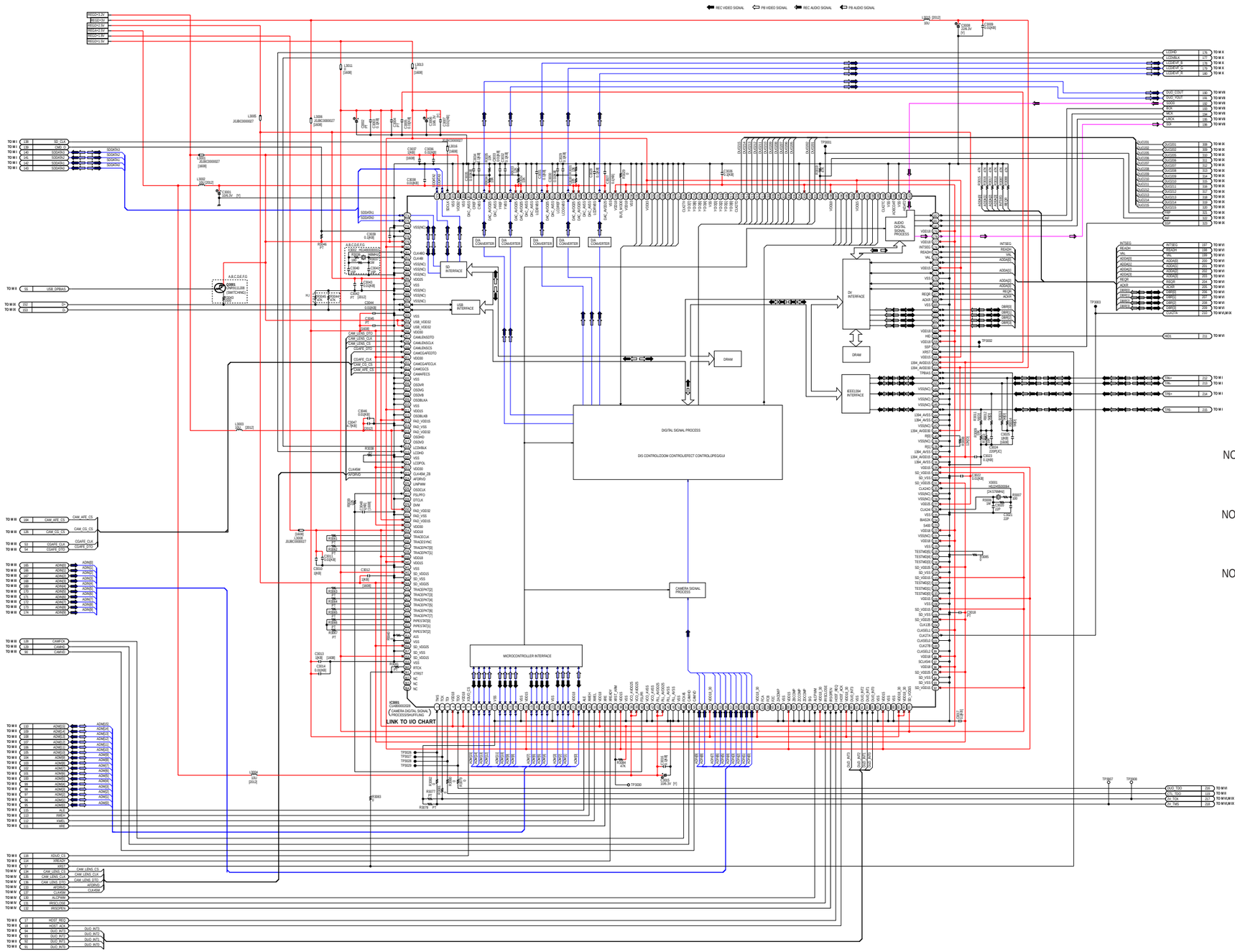
IC701 IC- DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB8295
MAIN IV SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN V SCHEMATIC DIAGRAM



COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

LINK TO VOLTAGE CHART

LSJB8295
MAIN V SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

I/O CHART OF IC3001

Pin No.	I/O	Signal Name	Description
1	I	TMS	Test Mode Select
2	I	TCK	Test Clock
3	I	TDI	Test Data
4	I	VDD18	+1.8V
5	O	TDO	Test Data
6	I	VDD18	+1.8V
7	I	XDUO_CS	IC3001 Chip Select : Low
8	I/O	ADM(15)	Address / Data 15
9	I/O	ADM(14)	Address / Data 14
10	I/O	ADM(13)	Address / Data 13
11	I/O	ADM(12)	Address / Data 12
12	---	VSS	Ground
13	I/O	ADM(11)	Address / Data 11
14	I/O	ADM(10)	Address / Data 10
15	I/O	ADM(9)	Address / Data 9
16	I/O	ADM(8)	Address / Data 8
17	---	VSS	Ground
18	I	VDD15	+1.5V
19	I/O	ADM(7)	Address / Data 7
20	I/O	ADM(6)	Address / Data 6
21	I/O	ADM(5)	Address / Data 5
22	I/O	ADM(4)	Address / Data 4
23	---	VSS	Ground
24	I/O	ADM(3)	Address / Data 3
25	I/O	ADM(2)	Address / Data 2
26	I/O	ADM(1)	Address / Data 1
27	I	VDD18	+1.8V
28	I/O	ADM(0)	Address / Data 0
29	I	ALE	Latch Enable
30	I	XWEH	Write Enable:Low
31	I	XWEL	Write Enable:Low
32	I	VDD18	+1.8V
33	I	XRE	Read Enable:Low
34	I	XREADY	Ready:Low
35	---	XRST_ARM	(Not used)
36	I	VDD15	+1.5V
37	---	VSS	Ground
38	I	VCO_AVDD25	+2.5V
39	I	VCO_AVDD25	+2.5V
40	I	FSLPFI	FSPLL LPF In
41	---	VCO_AVSS	Ground
42	---	VCO_AVSS	Ground
43	I	PLL_AVDD25	+2.5V
44	I	PLL_AVDD25	+2.5V
45	---	PLL_AVSS	Ground
46	---	PLL_AVSS	Ground
47	---	VSS	Ground
48	I	FCK45	4.5MHz Clock
49	I	CAMHD	Camera HD Pulse
50	I	CAMVD	Camera VD Pulse
51	I	ADIN(9)	Camera Data 9
52	I	ADIN(8)	Camera Data 8
53	I	VDD18_30	+3.0V
54	I	ADIN(7)	Camera Data 7
55	I	ADIN(6)	Camera Data 6
56	I	ADIN(5)	Camera Data 5
57	I	ADIN(4)	Camera Data 4
58	I	ADIN(3)	Camera Data 3
59	I	ADIN(2)	Camera Data 2
60	I	ADIN(1)	Camera Data 1
61	I	ADIN(0)	Camera Data 0
62	I	VDD18_30	+3.0V
63	---	FXA	(Not used)
64	---	FCB	(Not used)
65	---	F2C	(Not used)
66	---	ZACOMP	(Not used)
67	---	VSS	Ground
68	I	VDD15	+1.5V
69	---	ZBCOMP	(Not used)
70	---	ZCCOMP	(Not used)
71	---	ZDCOMP	(Not used)
72	---	SIG	(Not used)
73	O	ALCPWM	ALC PWM Control

Pin No.	I/O	Signal Name	Description
74	I	VDD18_30	+3.0V
75	O	IRISCLOSE	Iris Close Control
76	O	IRISOPEN	Iris Open Control
77	O	HOST_REQ	Request for DMA
78	I	HOST_ACK	Acknowledge for DMA
79	I	VDD18_30	+3.0V
80	O	DUO_INT3	IC3001 Interrupt 3
81	---	VSS	Ground
82	O	DUO_INT2	IC3001 Interrupt 2
83	O	DUO_INT1	IC3001 Interrupt 1
84	O	DUO_INT0	IC3001 Interrupt 0
85	---	VSS	Ground
86	I	VDD15	+1.5V
87	---	VSS	Ground
88	---	VSS	Ground
89	I	VDD18_30	+3.0V
90	I	VDD18_30	+3.0V
91	I	SD_VDD15	+1.5V
92	I	SD_VDD15	+1.5V
93	---	SD_VSS	Ground
94	---	SD_VSS	Ground
95	I	SD_VDD25	+2.5V
96	I	VDD18	+1.8V
97	---	SCLK54I	(Not used)
98	I	VDD18	+1.8V
99	---	CLKSEL2	(Not used)
100	---	CLK27B	(Not used)
101	---	CLKSEL0	(Not used)
102	O	CLK27A	27MHz Clock
103	---	CLKSEL1	(Not used)
104	---	CLK135	(Not used)
105	I	SD_VDD25	+2.5V
106	---	SD_VSS	Ground
107	I	SD_VDD15	+1.5V
108	---	VSS	Ground
109	I	SD_VDD15	+1.5V
110	---	TESTMD(0)	(Not used)
111	---	TESTMD(1)	(Not used)
112	---	TESTMD(2)	(Not used)
113	I	SD_VDD15	+1.5V
114	---	SD_VSS	Ground
115	I	SD_VDD25	+2.5V
116	---	TESTMD(3)	(Not used)
117	---	TESTMD(4)	(Not used)
118	---	TESTMD(5)	(Not used)
119	---	VSS	Ground
120	I	VDD18	+1.8V
121	---	VSS(NC)	Ground
122	I	VDD18	+1.8V
123	---	S400	(Not used)
124	---	BIAS2K	(Not used)
125	---	VSS	Ground
126	I	CLK24I	24.576MHz Clock
127	I	VDD25	+2.5V
128	---	VSS(NC)	Ground
129	---	VSS(NC)	Ground
130	O	CLK24O	24.576MHz Clock
131	I	SD_VDD25	+2.5V
132	---	SD_VSS	Ground
133	I	SD_VDD15	+1.5V
134	I	VDD15	+1.5V
135	---	1394_AVSS	Ground
136	I	1394_AVDD15	+1.5V
137	---	1394_AVSS	Ground
138	O	R(1)	Current Limit Resistor(1)
139	---	VSS(NC)	Ground
140	I	R(0)	Current Limit Resistor(0)
141	I	1394_AVDD30	+3.0V
142	---	VSS(NC)	Ground
143	---	1394_AVSS	Ground
144	---	1394_AVSS	Ground
145	I/O	TPBN	Transaction Data B(-)
146	---	VSS(NC)	Ground

Pin No.	I/O	Signal Name	Description
147	---	VSS(NC)	Ground
148	I/O	TPBP	Transaction Data B(+)
149	---	VSS(NC)	Ground
150	I/O	TPAN	Transaction Data A(-)
151	I/O	TPAP	Transaction Data A(+)
152	I/O	TPBIAS	Transaction Bias
153	I	1394_AVDD30	+3.0V
154	I	1394_AVDD15	+1.5V
155	I	VDD15	+1.5V
156	I	XRST	Reset:Low
157	---	SSP	(Not used)
158	I	VDD18	+1.8V
159	I	HID	Head Switch Pulse
160	I	VDD18	+1.8V
161	I/O	DBR3	Degital Rec/PB Data 3
162	I/O	DBR2	Degital Rec/PB Data 2
163	I/O	DBR1	Degital Rec/PB Data 1
164	I/O	DBR0	Degital Rec/PB Data 0
165	---	VSS	Ground
166	O	ACKR	Acknowledge for RIP
167	I/O	REQR	Request for RIP
168	I/O	ADDA(3)	Address/Data 3
169	I/O	ADDA(2)	Address/Data 2
170	---	VSS	Ground
171	I/O	ADDA(1)	Address/Data 1
172	I	VDD15	+1.5V
173	I/O	ADDA(0)	Address/Data 0
174	O	VAL	BUS Control
175	O	READH	BUS Control
176	I/O	INTSEG	Interrupt signal for Servo
177	I	VDD18	+1.8V
178	O	DODAT	Digital Audio Data
179	I	VDD18	+1.8V
180	O	DOLRCK	Digital Audio L/R Clock
181	O	DOMCK	Digital Audio Master Clock
182	O	DOBCK	Digital Audio Bit Clock
183	I	AIDAT1	Digital Audio Data
184	---	AIDAT2	(Not used)
185	---	VSS	Ground
186	---	ADECOAT	(Not used)
187	---	VSS	Ground
188	---	CLK27C	(Not used)
189	---	LYCI00	(Not used)
190	---	LYCI01	(Not used)
191	---	LYCI02	(Not used)
192	---	LYCI03	(Not used)
193	I	VDD15	+1.5V
194	---	LYCI04	(Not used)
195	---	LYCI05	(Not used)
196	---	LYCI06	(Not used)
197	---	LYCI07	(Not used)
198	I	VDD18	+1.8V
199	?	FRP	?
200	?	INF	?
201	I/O	SHMFINT	USB Data 1
202	I/O	SHMFIRD	USB Data 2
203	I	VDD18	+1.8V
204	---	VSS	Ground
205	I/O	SHMFIMR	USB Data 5
206	I/O	SHMFIRS	USB Data 6
207	I/O	SHMFICS	USB Data 7
208	I/O	SHMFID0	USB Data 8
209	I/O	SHMFID1	USB Data 9
210	I/O	SHMFID2	USB Data 10
211	I/O	SHMFID3	USB Data 11
212	I/O	SHMFID4	USB Data 12
213	I/O	SHMFID5	USB Data 13
214	I/O	SHMFID6	USB Data 14
215	I/O	SHMFID7	USB Data 15
216	---	CLK27D	(Not used)
217	---	YCIO(0)	(Not used)
218	---	YCIO(1)	(Not used)
219	---	YCIO(2)	(Not used)

Pin No.	I/O	Signal Name	Description
220	---	YCIO(3)	(Not used)
221	---	VSS	Ground
222	---	YCIO(4)	(Not used)
223	---	YCIO(5)	(Not used)
224	---	YCIO(6)	(Not used)
225	---	YCIO(7)	(Not used)
226	---	CLK27X	(Not used)
227	---	YCIN(0)	(Not used)
228	---	YCIN(1)	(Not used)
229	---	YCIN(2)	(Not used)
230	---	YCIN(3)	(Not used)
231	---	YCIN(4)	(Not used)
232	---	YCIN(5)	(Not used)
233	I	VDD15	+1.5V
234	---	YCIN(6)	(Not used)
235	---	YCIN(7)	(Not used)
236	---	VSS	Ground
237	I	VDD18	+1.8V
238	---	BUS_MODE	(Not used)
239	I	VDD18	+1.8V
240	---	VSS	Ground
241	I	DAC_AVDD25	+2.5V
242	O	LCDROUT	LCD-Red Signal
243	I	LCDRVBS	LCD R Bias
244	---	DAC_AVSS	Ground
245	---	DAC_AVSS	Ground
246	I	DAC_AVDD25	+2.5V
247	I	DAC_AVDD25	+2.5V
248	O	LCDGOUT	LCD-Green Signal
249	I	LCDGVBS	LCD G Bias
250	I	LCDREF	LCD Reference Voltage
251	---	DAC_AVSS	Ground
252	I	DAC_AVDD25	+2.5V
253	O	LCDBOUT	LCD-Blue Signal
254	I	LCDBVBS	LCD B Bias
255	---	DAC_AVSS	Ground
256	---	DAC_AVSS	Ground
257	I	DAC_AVDD25	+2.5V
258	I	DAC_AVDD25	+2.5V
259	O	YOUT	Luminance Signal
260	I	YVBS	Y Bias
261	I	YREF	Y Reference Voltage
262	---	DAC_AVSS	Ground
263	I	DAC_AVDD25	+2.5V
264	O	COUT	Chrominance Signal
265	I	CVBS	C Bias
266	I	CREF	C Reference Voltage
267	---	DAC_AVSS	Ground
268	---	VSS	Ground
269	I	VSDD32	+3.2V
270	---	VSS	Ground
271	O	SDCLK	SD Serial Clock
272	I/O	DATA(3)	SD Data 3
273	I/O	DATA(2)	SD Data 2
274	I/O	DATA(1)	SD Data 1
275	I/O	DATA(0)	SD Data 0
276	---	VSS(NC)	Ground
277	I/O	CMD	CMD for SD
278	---	VSS(NC)	Ground
279	I	SD_VDD32	+3.2V
280	I	VDD15	+1.5V
281	O	CLK48O	48MHz Clock
282	I	CLK48I	48MHz Clock
283	---	VSS(NC)	Ground
284	---	VSS(NC)	Ground
285	---	VSS(NC)	Ground
286	I	VDD25	+2.5V
287	---	VSS	Ground
288	---	VSS(NC)	Ground
289	---	VSS(NC)	Ground
290	---	VSS(NC)	Ground
291	I/O	USB_DP	USB Data (+)
292	I/O	USB_DN	USB Data (-)

Pin No.	I/O	Signal Name	Description
293	---	VSS	Ground
294	I	USB_VDD32	+3.2V
295	I	USB_VDD32	+3.2V
296	I	VDD30	+3.0V
297	O	CAMLENSDTO	Lens Drive Serial Data
298	O	CAMLENSCLK	Lens Drive Serial Clock
299	O	CAMLENSCS	Lens Drive Chip Select
300	O	CAMCGAFEDTO	Camera DAC/TG Serial Data
301	I	VDD30	+3.0V
302	O	CAMCGAFECLK	Camera DAC/TG Serial Clock
303	O	CAMCGCS	TG Chip Select
304	O	CAMAFECS	Camera DAC Chip Select
305	---	VSS	Ground
306	---	OSDVR	(Not used)
307	---	OSDVG	(Not used)
308	---	OSDVB	(Not used)
309	---	OSDBLKA	(Not used)
310	---	VSS	Ground
311	I	VDD15	+1.5V
312	---	OSDBLKB	(Not used)
313	I	FAD_VDD15	+1.5V
314	---	FAD_VSS	Ground
315	I	FAD_VDD32	+3.2V
316	---	OSDHD	(Not used)
317	---	OSDVD	(Not used)
318	O	LCDVBLK	LCD V-Sync Pulse
319	O	LCDHD	LCD H-Sync Pulse
320	---	VSS	Ground
321	---	LCDPOL	(Not used)
322	I	VDD30	+3.0V
323	O	CLK45M_ZB	4.5MHz Clock
324	O	AFDRVD	Lens Drive VD Pulse
325	---	LINPWM	(Not used)
326	---	OSDCLK	(Not used)
327	O	FSLPFO	FSPLL LPF Out
328	---	DTCLK	(Not used)
329	---	DVM	(Not used)
330	I	FAD_VDD32	+3.2V
331	---	FAD_VSS	Ground
332	I	FAD_VDD15	+1.5V
333	I	VDD30	+3.0V
334	I	VDD18	+1.8V
335	---	TRACECLK	(Not used)
336	---	TRACESYNC	(Not used)
337	---	TRACEPKT(0)	(Not used)
338	---	TRACEPKT(1)	(Not used)
339	I	VDD18	+1.8V
340	I	VDD15	+1.5V
341	---	VSS	Ground
342	I	SD_VDD15	+1.5V
343	---	SD_VSS	Ground
344	I	SD_VDD25	+2.5V
345	---	TRACEPKT(2)	(Not used)
346	---	TRACEPKT(3)	(Not used)
347	---	TRACEPKT(4)	(Not used)
348	---	TRACEPKT(5)	(Not used)
349	---	TRACEPKT(6)	(Not used)
350	---	TRACEPKT(7)	(Not used)
351	---	PIPESTAT(0)	(Not used)
352	---	PIPESTAT(1)	(Not used)
353	---	PIPESTAT(2)	(Not used)
354	---	A15	(Not used)
355	---	VSS	Ground
356	I	SD_VDD25	+2.5V
357	---	SD_VSS	Ground
358	I	SD_VDD15	+1.5V
359	---	VSS	Ground
360	---	RTCK	(Not used)
361	I	XTRST	Reset:Low
362	---	NC	(Not used)
363	---	NC	(Not used)
364	---	NC	(Not used)

MAIN VI SCHEMATIC DIAGRAM

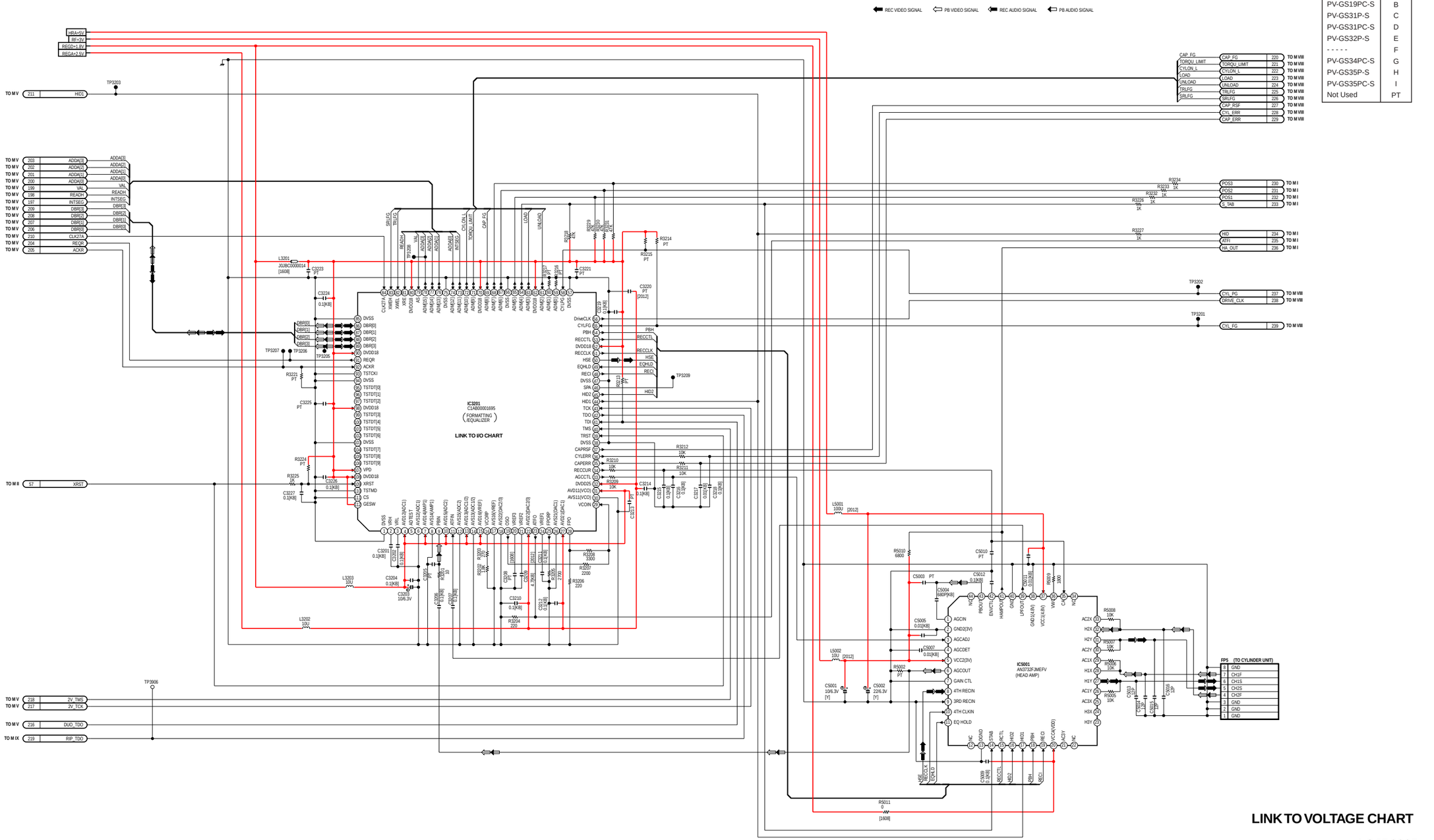
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



LINK TO VOLTAGE CHART

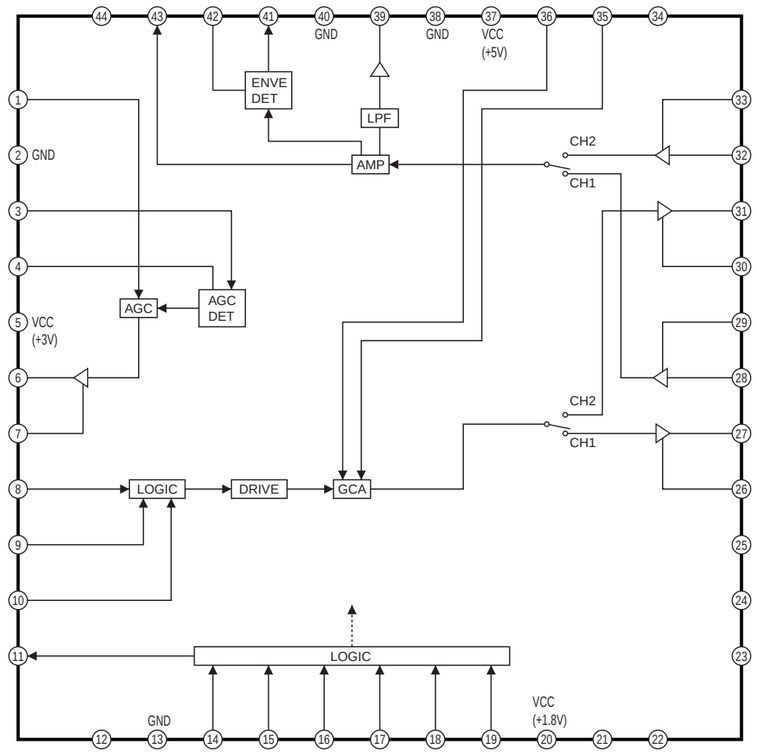
LSJB8295
MAIN VI SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

I/O CHART OF IC3201

Pin No.	I/O	Signal Name	Description
1	-	DVSS	Ground
2	-	VRH	V-ref : high
3	-	VRL	V-ref : low
4	I	AVD12 (ADC1)	+1.8V
5	-	ADTEST	Test pin
6	-	AVS12 (ADC1)	Ground
7	I	AVD14 (AMP1)	+1.8V
8	-	AVS14 (AMP1)	Ground
9	I	PBIN	PB data input (+)
10	I	AVD15 (ADC2)	+1.8V
11	I	ATFIN	ATF input
12	-	AVS15 (ADC2)	Ground
13	I	AVD13 (ADC1/2)	+1.8V
14	-	AVS13 (ADC1/2)	Ground
15	I	AVD16 (VREF)	+1.8V
16	-	VCORP	VCO reference resister
17	-	AVS16 (VREF)	Ground
18	-	AVS22 (DAC2/3)	Ground
19	O	OSO	Offset output
20	-	VREF3	V-ref3
21	-	VREF2	V-ref2
22	I	AVD22 (DAC2/3)	+1.8V
23	O	ATF0	ATF output
24	-	VREF1	V-ref1
25	O	FPORP	Frequency Phase out (+)
26	-	AVS21 (DAC1)	Ground
27	I	AVD21 (DAC1)	+1.8V
28	-	FRP	(Not used)
29	I	VCOIN	VCO input
30	-	AVS11 (VCO)	Ground
31	I	AVD11 (VCO)	+1.8V
32	I	DVDD25	+2.5V
33	O	AGCCTL	AGC control
34	O	RECCUR	Rec current control
35	O	CAPERR	Capstan error
36	O	CYLERR	Cylinder error
37	O	CAPRSF	Capstan motor Reverse(H)/Stop(M)/Forward(L)
38	-	DVSS	Ground
39	I	TRST	Reset : low
40	I	TMS	Test mode of JTAG
41	I	TDI	Test data out of JTAG
42	O	TDO	Test data In of JTAG
43	I	TCK	Test clock of JTAG
44	O	HID1	Head switch pulse 1
45	O	HID2	Head switch pulse 2
46	O	SPA	Sample pulse for ATF
47	-	DVSS	Ground
48	O	RECI	Rec on/off control
49	I	EQHLD	Equalizer hold
50	O	HSE	Rec data
51	O	RECCLK	Rec clock
52	I	DVDD18	+1.8V
53	O	RECCTL	Rec control
54	O	PBH	PB mode : high
55	I	CYLFG	Cylinder FG head
56	O	DriveCLK	Drive clock

Pin No.	I/O	Signal Name	Description
57	-	DVSS	Ground
58	I	CYLPG	Cylinder PG head
59	-	ADM[0]	(Not used)
60	-	ADM[1]	(Not used)
61	I/O	ADM[2]	Address/data 2
62	I	ADD18	+1.8V
63	I/O	ADM[3]	Address/data 3
64	I/O	ADM[4]	Address/data 4
65	I/O	ADM[5]	Address/data 5
66	-	DVSS	Ground
67	I/O	ADM[6]	Address/data 6
68	I/O	ADM[7]	Address/data 7
69	I/O	ADM[8]	Address/data 8
70	I	DVDD18	+1.8V
71	I/O	ADM[9]	Address/data 9
72	I/O	ADM[10]	Address/data 10
73	I/O	ADM[11]	Address/data 11
74	I/O	ADM[12]	Address/data 12
75	-	DVSS	Ground
76	I/O	ADM[13]	Address/data 13
77	I/O	ADM[14]	Address/data 14
78	I/O	ADM[15]	Address/data 15
79	I	AS	Address strobe
80	I	DVDD18	+1.8V
81	I	XRE	Read enable
82	I	XWEL	Write enable
83	I	XWEH	Write enable
84	I	CLK27A	27MHz clock
85	-	DVSS	Ground
86	I/O	DVR[0]	Digital Rec/PB data (0)
87	I/O	DVR[1]	Digital Rec/PB data (1)
88	I/O	DVR[2]	Digital Rec/PB data (2)
89	I/O	DVR[3]	Digital Rec/PB data (3)
90	I	DVDD18	+1.8V
91	O	REQR	Request of R10
92	I	ACKR	Acknowledge for R10
93	-	TSTCKI	(Not used)
94	-	DVSS	Ground
95	-	TSTDT[0]	(Not used)
96	-	TSTDT[1]	(Not used)
97	-	TSTDT[2]	(Not used)
98	I	DVDD18	+1.8V
99	-	TSTDT[3]	(Not used)
100	-	TSTDT[4]	(Not used)
101	-	TSTDT[5]	(Not used)
102	-	TSTDT[6]	(Not used)
103	-	DVSS	Ground
104	-	TSTDT[7]	(Not used)
105	-	TSTDT[8]	(Not used)
106	-	TSTDT[9]	(Not used)
107	I	VPD	+1.8V
108	I	DVDD18	+1.8V
109	I	XRST	Reset : low
110	-	TSTMD	(Not used)
111	-	CS	(Not used)
112	-	GESW	(Not used)

IC5001 IC- DETAIL BLOCK DIAGRAM



I/O CHART OF IC3201
IC5001 DETAIL BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN VII SCHEMATIC DIAGRAM

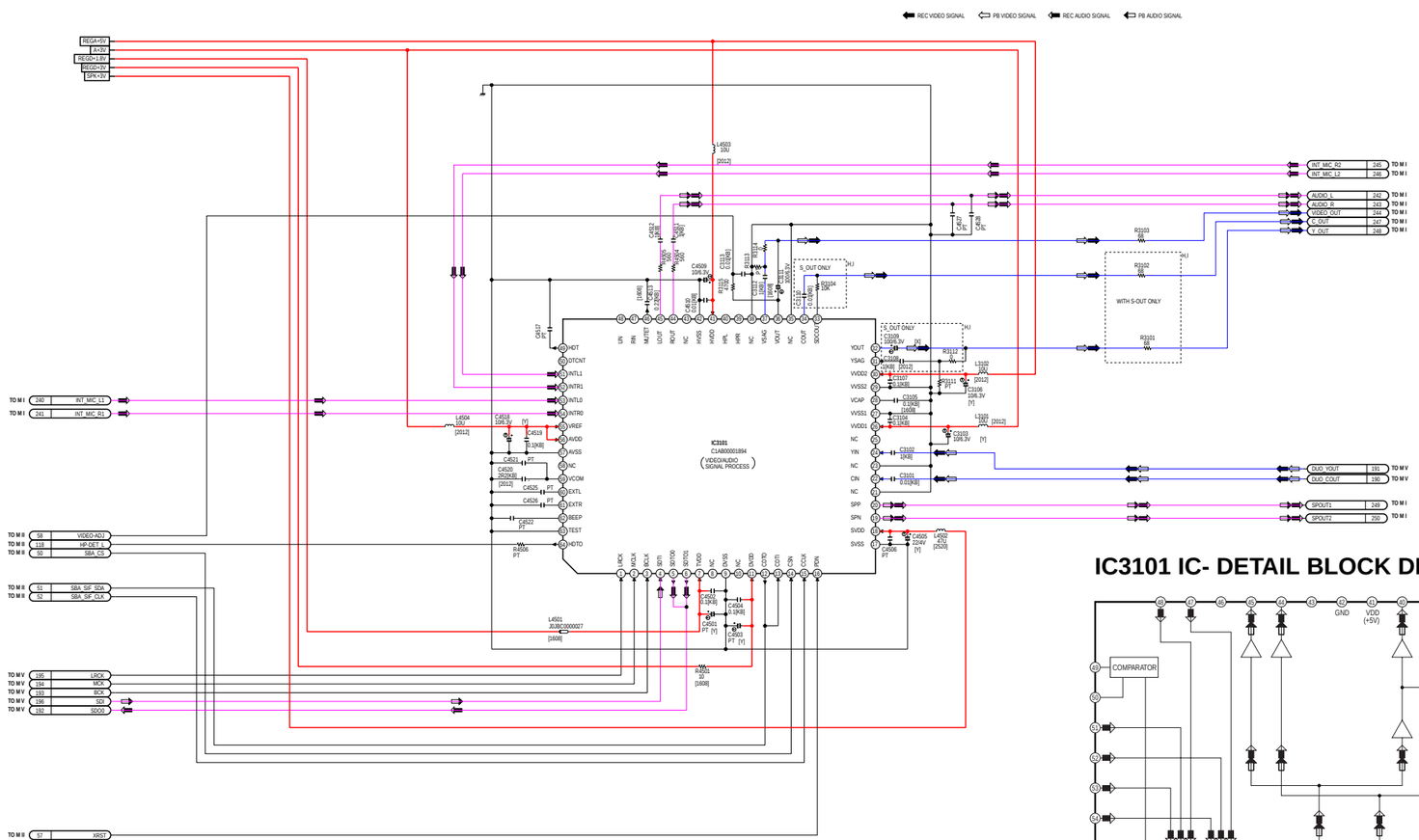
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

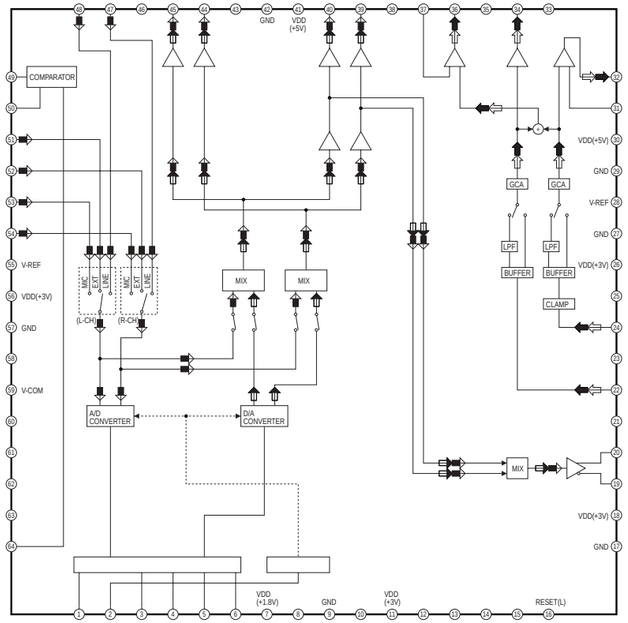
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



IC3101 IC- DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB8295
MAIN VII SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN VIII SCHEMATIC DIAGRAM

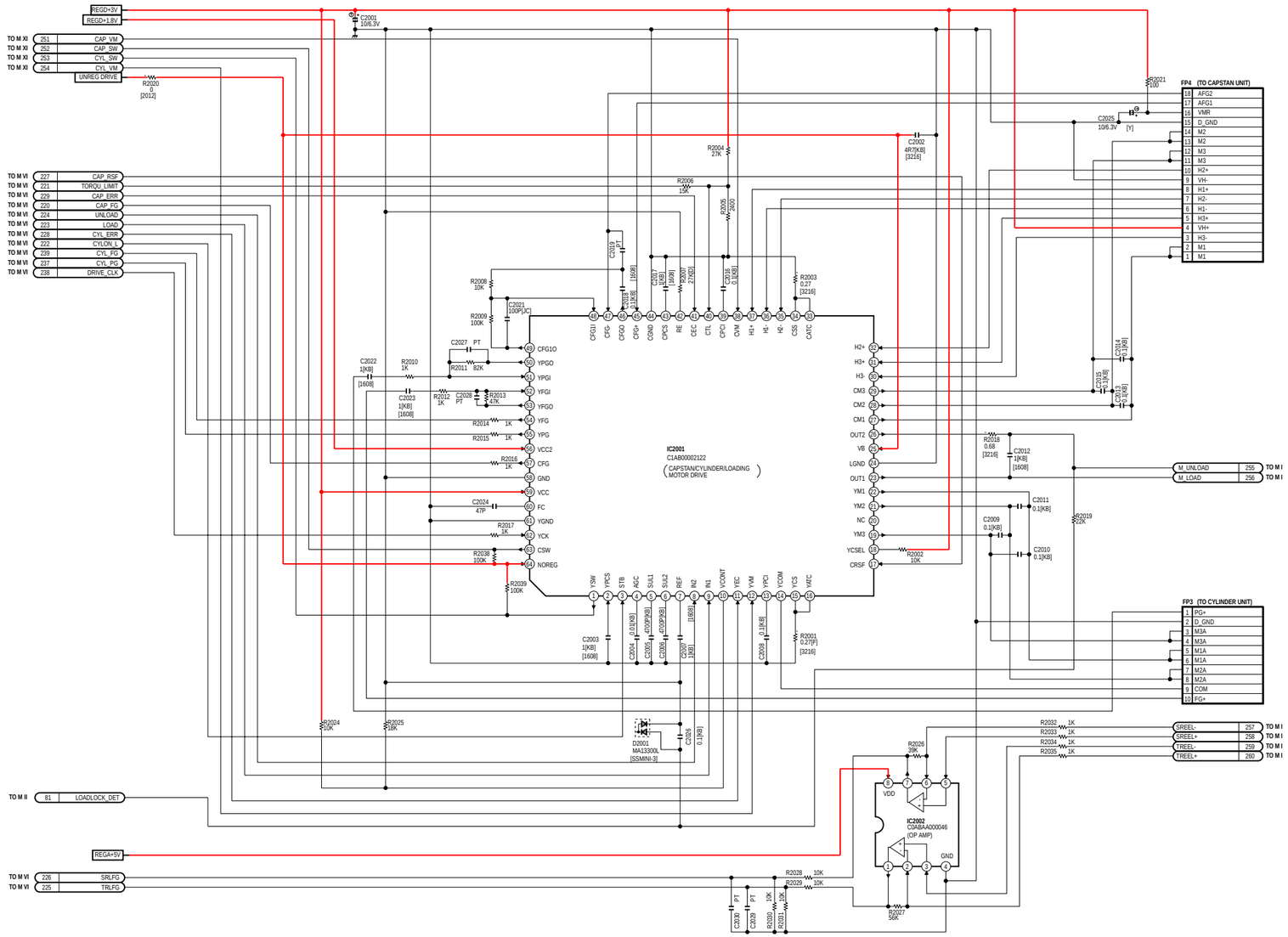
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

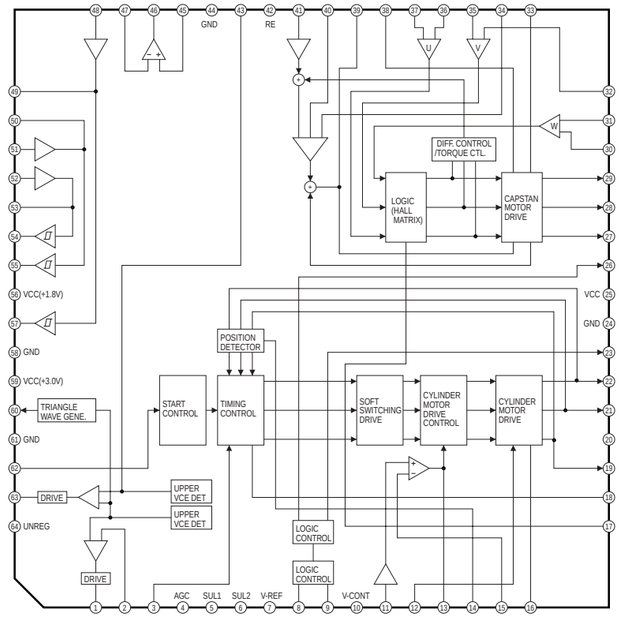
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



IC2001 IC- DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB8295
MAIN VIII SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN IX SCHEMATIC DIAGRAM

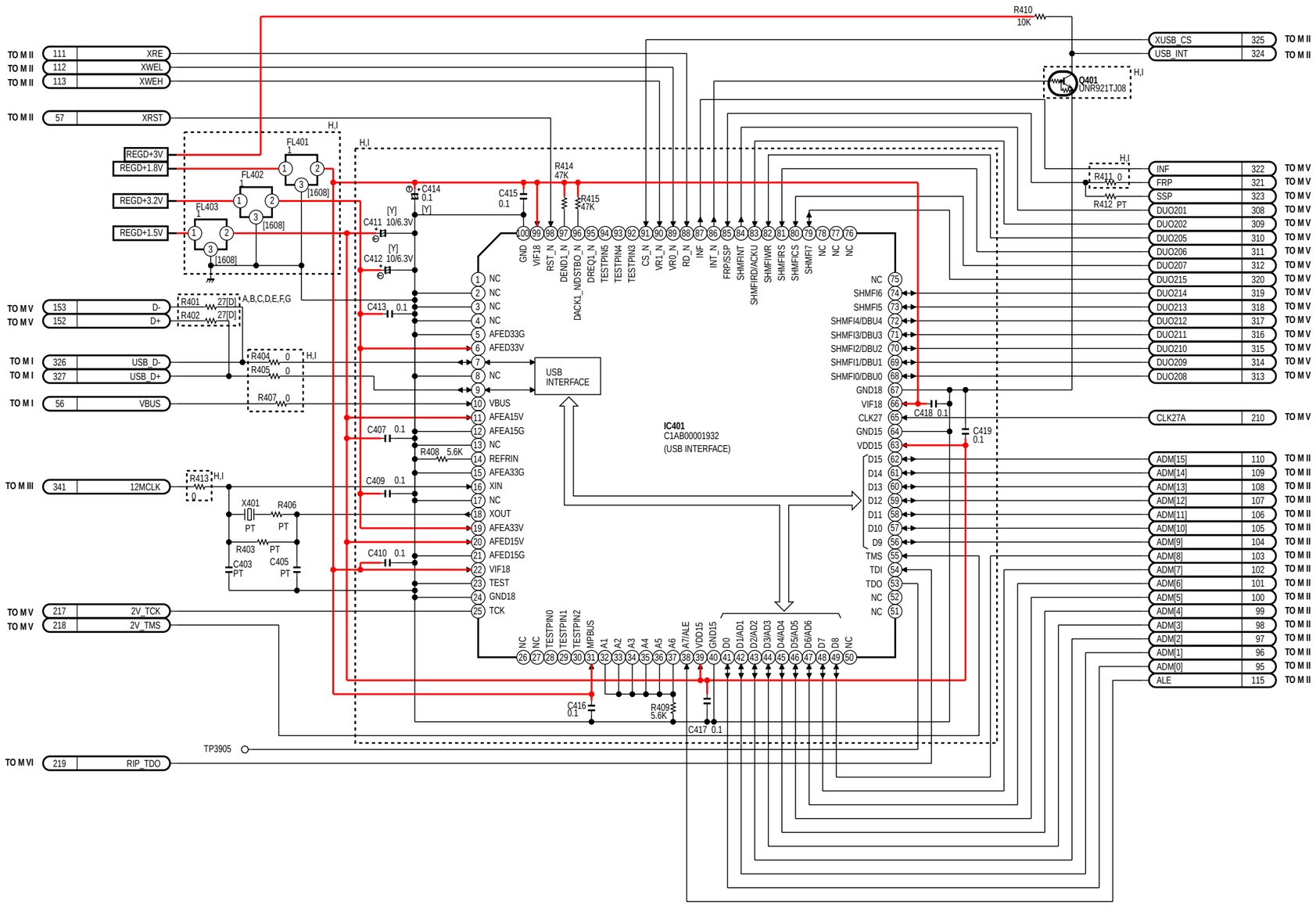
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



LINK TO VOLTAGE CHART

LSJB8295
MAIN IX SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN X SCHEMATIC DIAGRAM

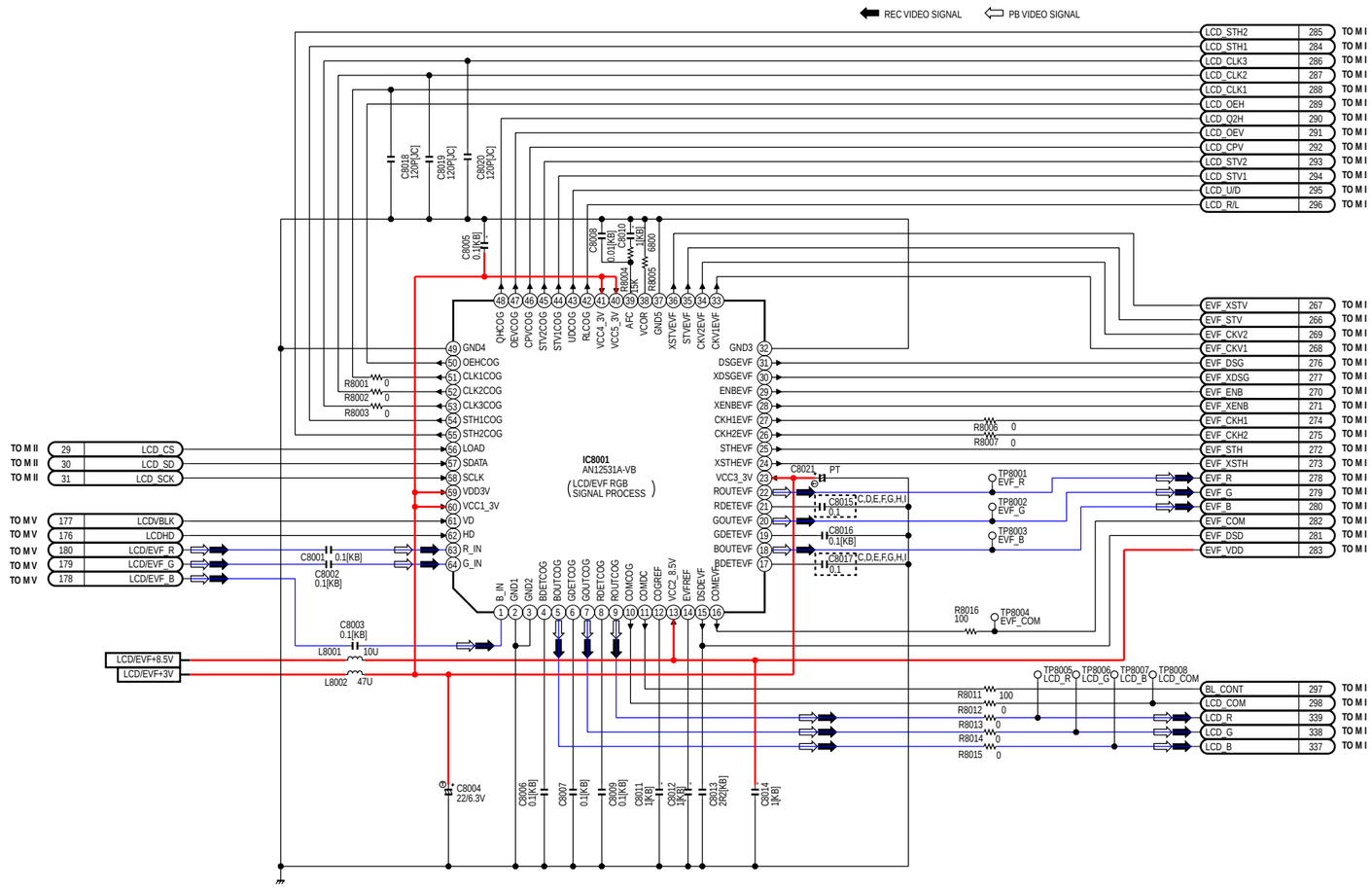
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

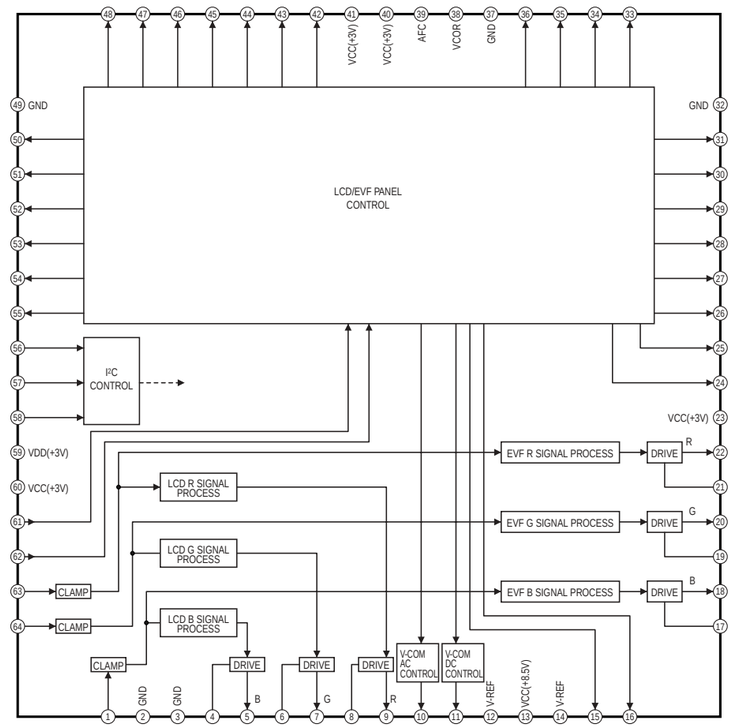
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



IC8001 IC- DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB8295
MAIN X SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

MAIN XI SCHEMATIC DIAGRAM

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 2A 32V

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

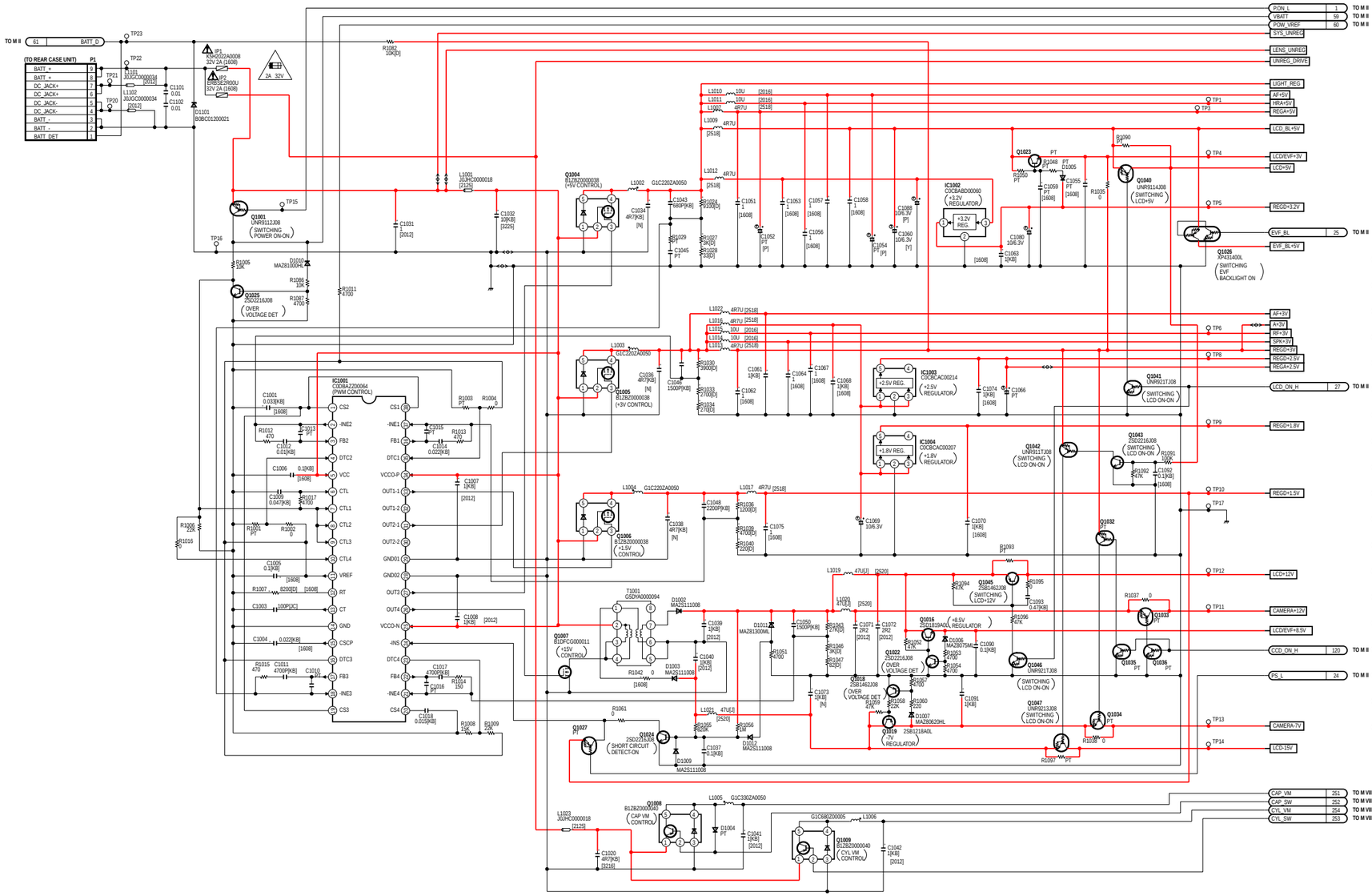
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

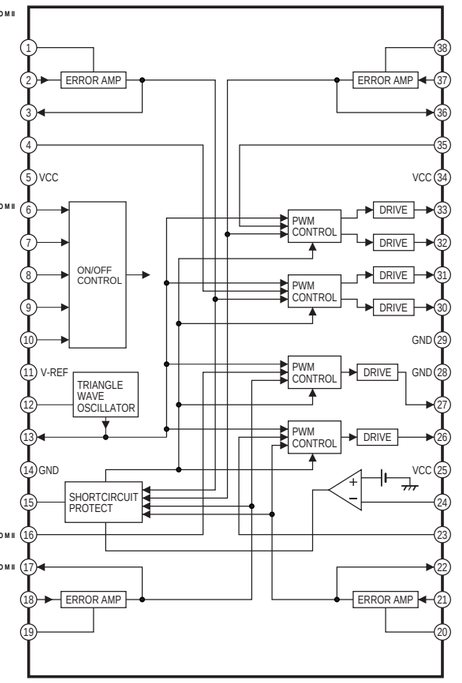
NOTE:
PARTS MARKED "PT" ARE NOT USED.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



IC1001 IC- DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB8295
MAIN XI SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.3. FRONT SCHEMATIC DIAGRAM

FRONT SCHEMATIC DIAGRAM

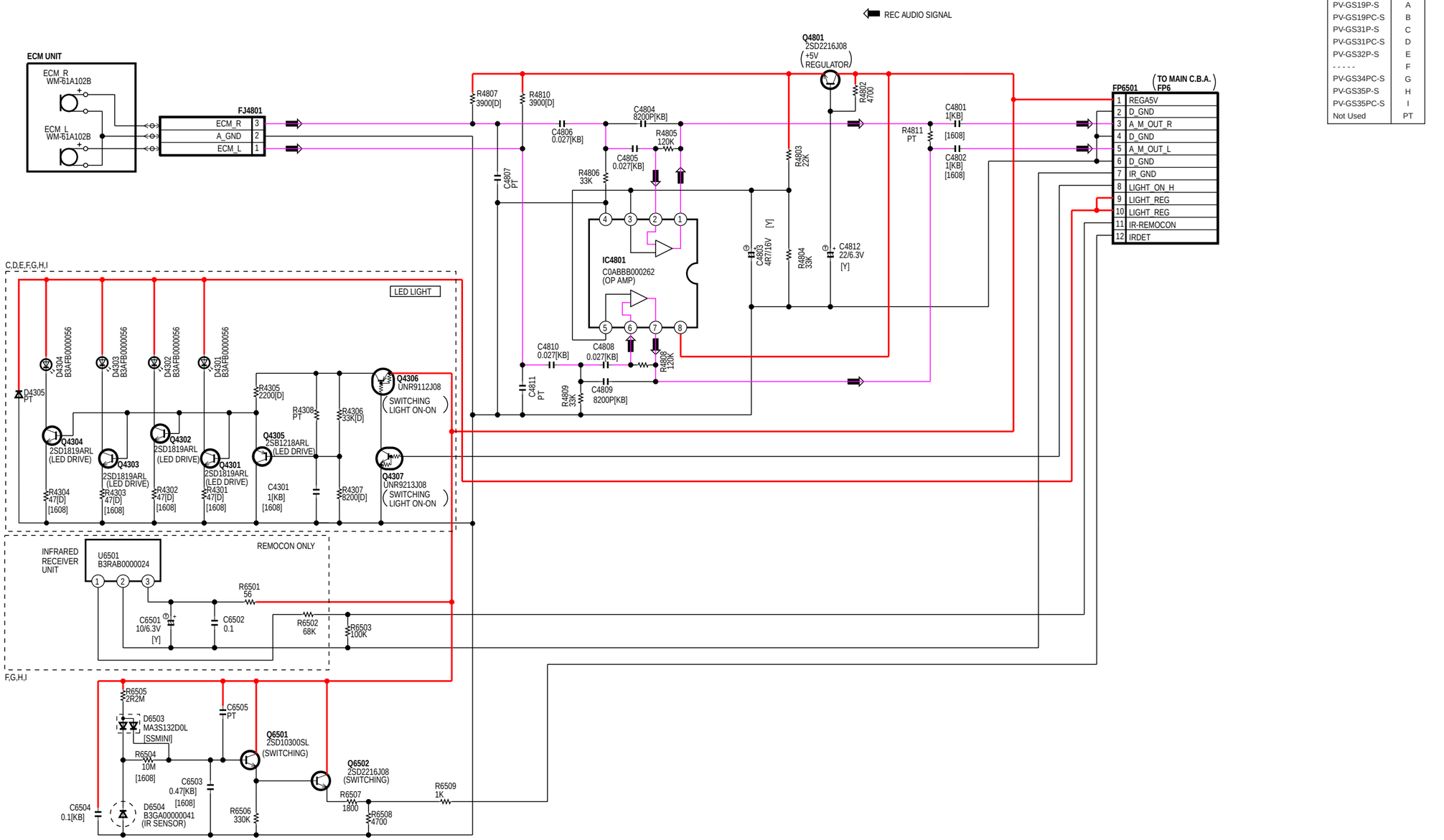
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



LSJB8296
FRONT SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.4. JACK SCHEMATIC DIAGRAM

JACK SCHEMATIC DIAGRAM

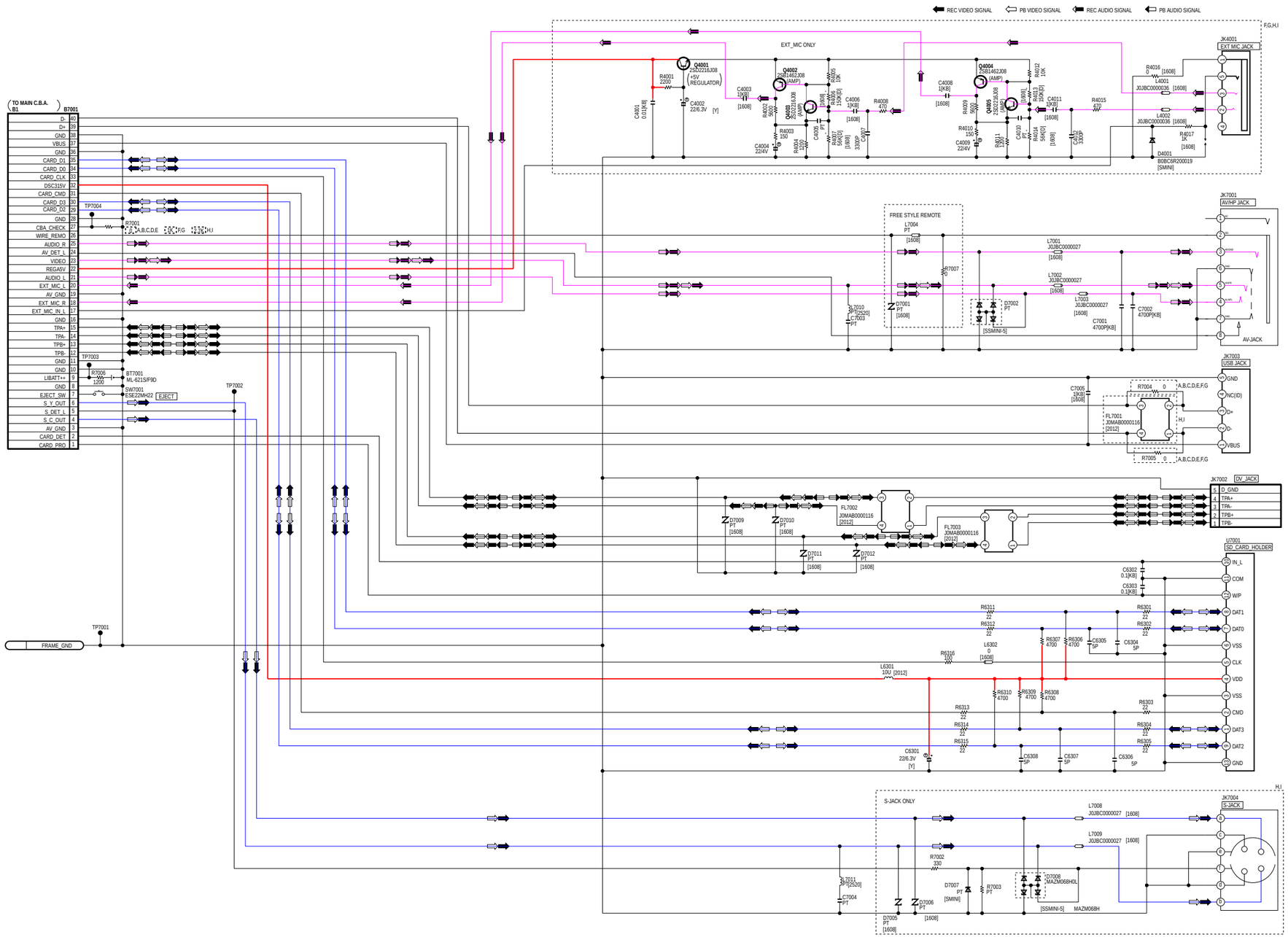
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



LINK TO VOLTAGE CHART
LSJB8297
JACK SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.5. LCD BACKLIGHT SCHEMATIC DIAGRAM

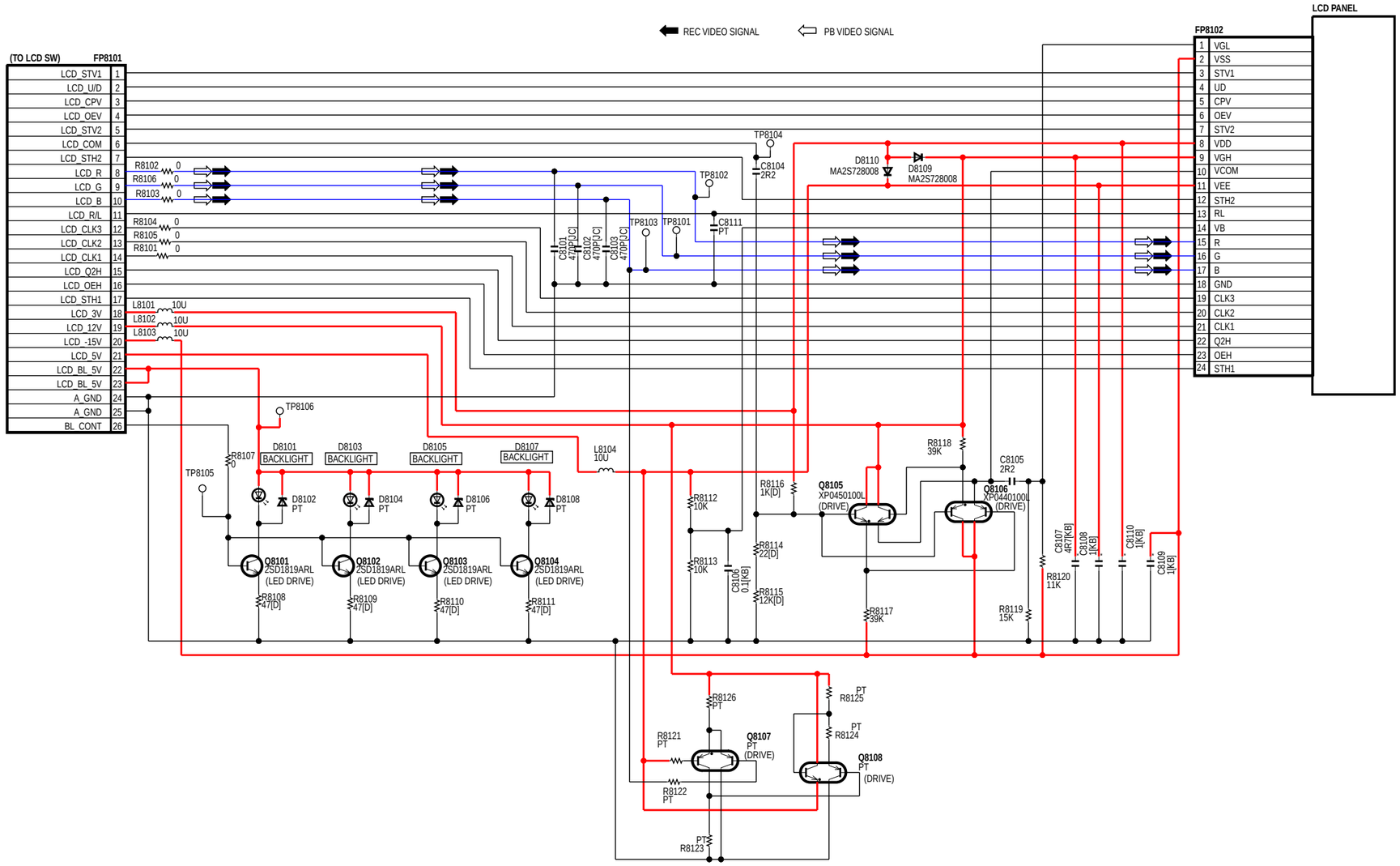
LCD BACKLIGHT SCHEMATIC DIAGRAM

NOTE:
ALL INDIVIDUAL PARTS EXCEPT D8101, D8103, D8105, AND D8107 ON LCD BACKLIGHT C.B.A. ARE SUPPLIED AS REPLACEMENT PARTS. WHEN SERVICING THESE PARTS, REPLACE LCD BACKLIGHT C.B.A. INSTEAD OF INDIVIDUAL PARTS.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.



LINK TO VOLTAGE CHART

LSJB8298

LCD BACKLIGHT SCHEMATIC DIAGRAM

PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.6. EVF BACKLIGHT / CASSETTE COVER SCHEMATIC DIAGRAMS

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

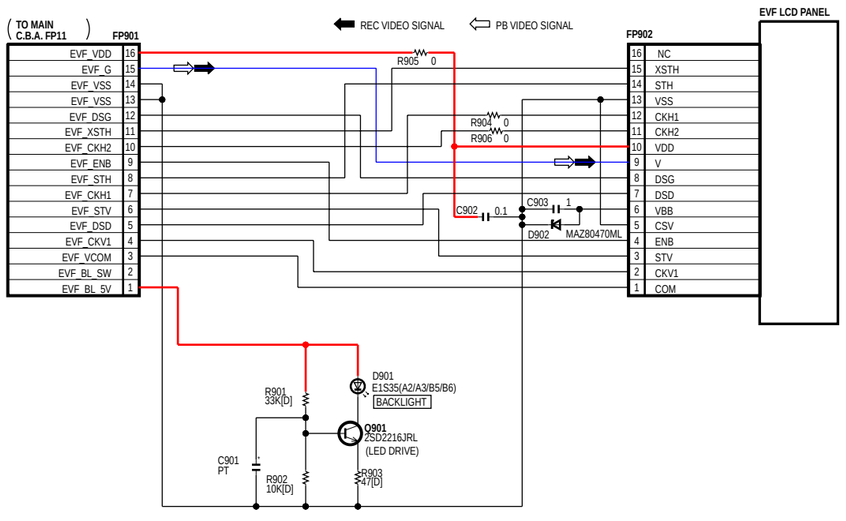
NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

EVF BACKLIGHT SCHEMATIC DIAGRAM (A, B)

"FOR REFERENCE ONLY"

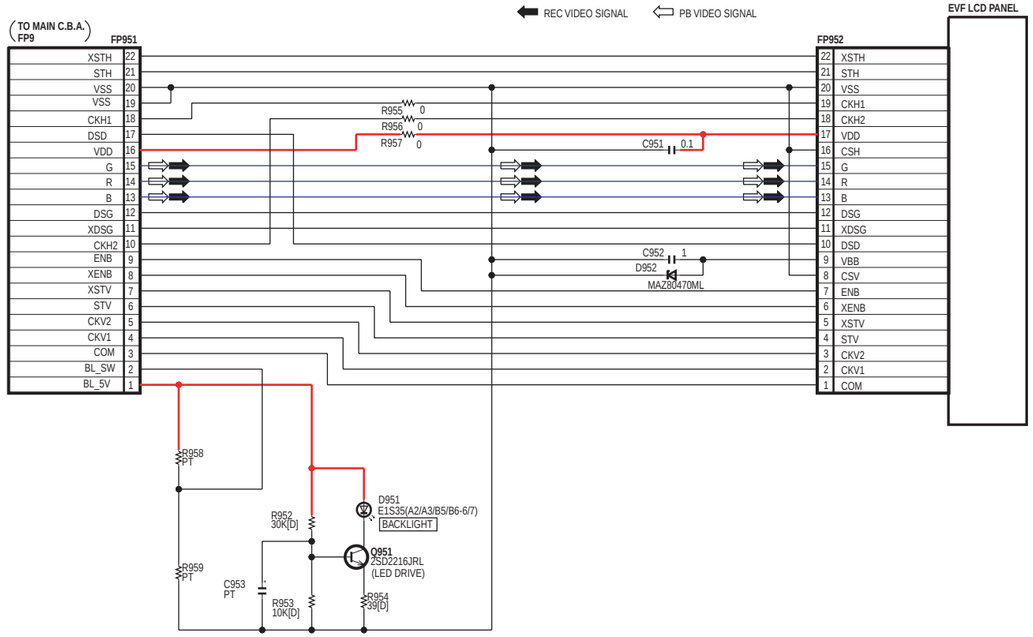
NOTE: EVF BACKLIGHT IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



EVF BACKLIGHT SCHEMATIC DIAGRAM (C, D, E, F, G, H, I)

"FOR REFERENCE ONLY"

NOTE: EVF BACKLIGHT IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



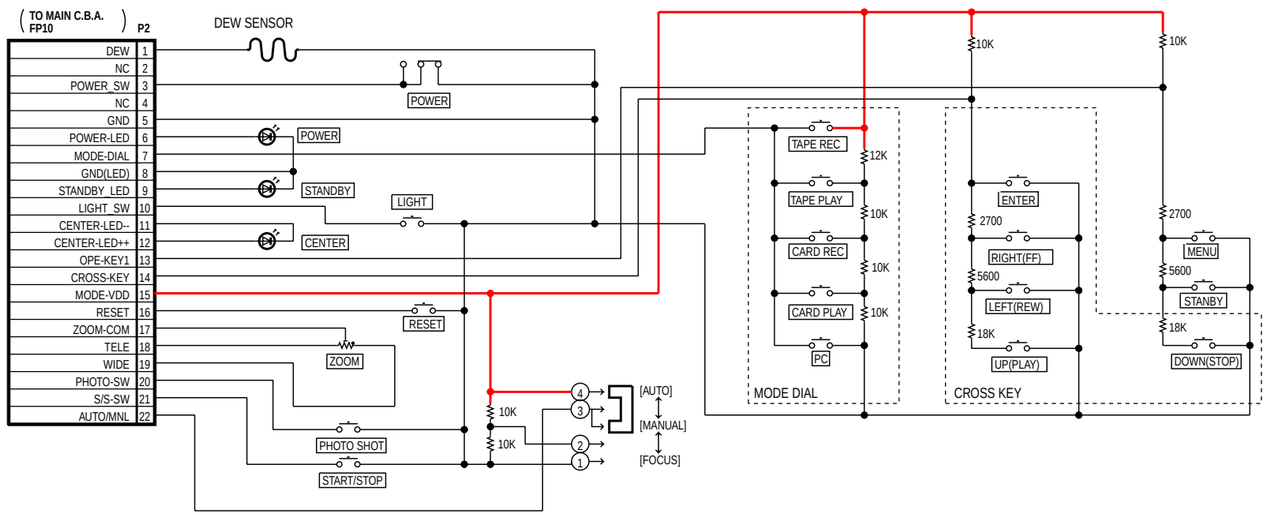
COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT

CASSETTE COVER SCHEMATIC DIAGRAM

"FOR REFERENCE ONLY"

NOTE: CASSETTE COVER UNIT IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



EVF BACKLIGHT SCHEMATIC DIAGRAM
CASSETTE COVER SCHEMATIC DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.7. CCD / SIDE CASE R / LCD SW SCHEMATIC DIAGRAMS

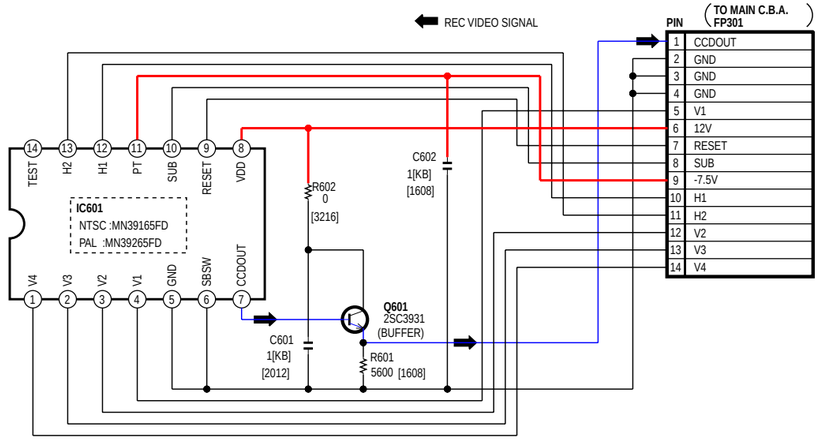
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

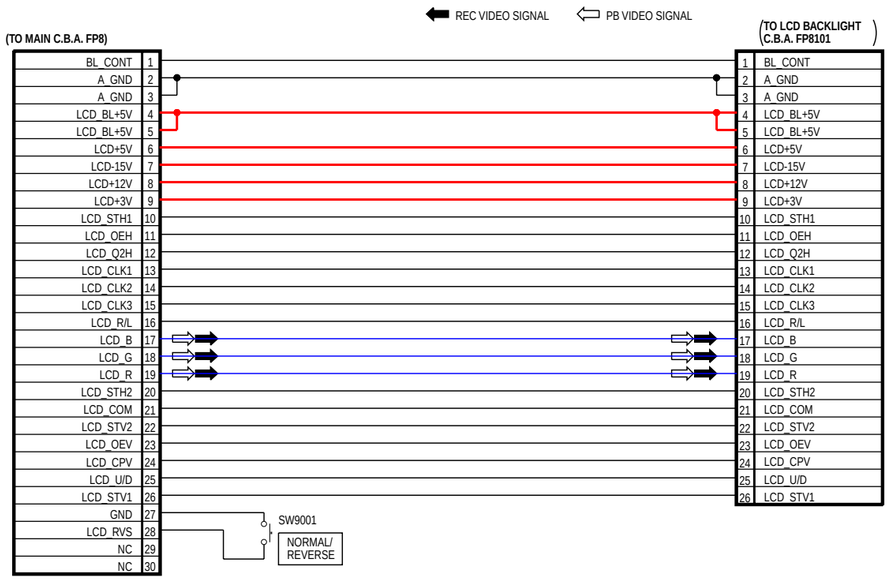
CCD SCHEMATIC DIAGRAM
"FOR REFERENCE ONLY"

NOTE: CCD C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



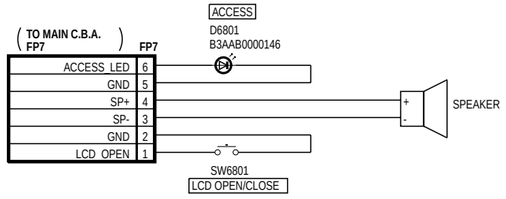
LCD SW SCHEMATIC DIAGRAM
"FOR REFERENCE ONLY"

NOTE: LCD SW IS NOT SERVICEABLE AND IS SUPPLIED AS A SHAFT CASE UNIT ONLY FOR REPLACEMENT.



SIDE CASE R SCHEMATIC DIAGRAM
"FOR REFERENCE ONLY"

NOTE: SIDE CASE R UNIT IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



CCD SCHEMATIC DIAGRAM
SIDE CASE SCHEMATIC DIAGRAM
LCD SW SCHEMATIC DIAGRAM

PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.8. INTERCONNECTION SCHEMATIC DIAGRAM

INTERCONNECTION SCHEMATIC DIAGRAM

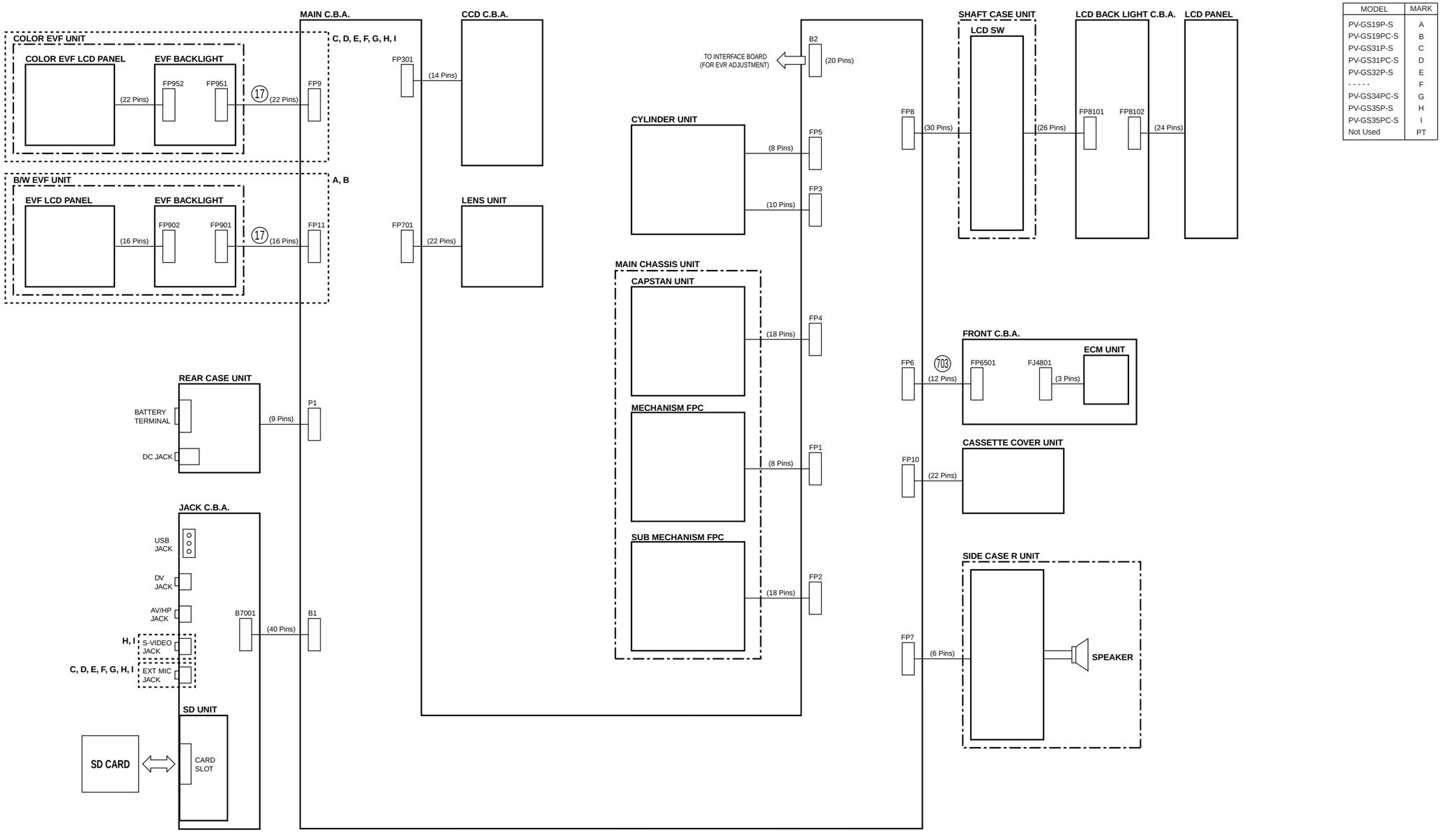
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I
Not Used	PT



INTERCONNECTION SCHEMATIC DIAGRAM

PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

9.9. VOLTAGE CHART

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (CAMERA SECTION)

MODE / PIN NO.	CAMERA
IC301	
1	5.0
2	0
3	0
4	3.4
5	5.0
IC302	
1	1.2
2	1.7
3	1.2
4	1.7
5	1.4
6	2.9
7	0
8	1.9
9	1.2
10	0.3
11	0.6
12	0
13	0
14	2.9
15	0.2
16	0.4
17	0.9
18	0
19	2.9
20	0
21	0
22	1.5
23	1.5
24	0
25	3.4
26	0.5
27	1.1
28	3.4
29	0
30	1.1
31	3.4
32	1.3
33	---
34	2.9
35	2.9
36	2.9
37	2.9
38	0
39	2.7
40	2.7
41	0.2
42	0.2
43	---
44	---
45	0
46	0
47	0
48	2.9

MODE / PIN NO.	CAMERA
49	0.9
50	2.9
51	1.1
52	1.3
53	0.7
54	0.9
55	---
56	0
57	1.0
58	2.0
59	2.9
60	0
61	2.9
62	2.9
63	2.9
64	2.9
IC303	
1	-7.0
2	-7.0
3	-0.2
4	0
5	0
6	3.0
7	0.4
8	2.9
9	0.2
10	2.9
11	---
12	2.7
13	2.9
14	2.7
15	0
16	12.0
17	-6.6
18	-6.6
19	0
20	12.0
IC701	
1	0.1
2	2.9
3	2.9
4	2.9
5	0
6	0
7	0
8	0
9	5.0
10	1.3
11	8.1
12	7.4
13	1.6
14	1.6
15	2.9
16	1.1
17	0

MODE / PIN NO.	CAMERA
18	0.1
19	5.1
20	1.5
21	1.5
22	1.5
23	1.5
24	1.5
25	1.5
26	1.8
27	1.5
28	1.5
29	1.9
30	1.1
31	0.2
32	1.0
33	2.9
34	1.0
35	2.9
36	2.9
37	2.9
38	0
39	0
40	0
41	0
42	0
43	0
44	0
45	0
46	0
47	0
48	2.9
Q701	
E	8.1
C	5.1
B	7.5
TP702	2.9

MAIN C.B.A. (POWER/VIDEO/AUDIO SECTION)

MODE / PIN NO.	STOP
IC1001	
1	2.0
2	1.3
3	0.7
4	2.1
5	8.1
6	3.9
7	4.1
8	4.1
9	4.1
10	4.1
11	2.1
12	0.8
13	0.7
14	0
15	0
16	2.1
17	0.8
18	1.3
19	2.0
20	2.0
21	1.3
22	0.7
23	0.9
24	2.1
25	8.1
26	3.4
27	3.2
28	0
29	0
30	4.0
31	5.1
32	5.3
33	6.4
34	8.1
35	2.1
36	0.6
37	1.3
38	2.0
IC1002	
1	3.3
2	0
3	5.0
IC1003	
1	2.9
2	0.2
3	2.9
4	0.2
5	2.6
IC1004	
1	2.9
2	0
3	2.9
4	---
5	1.9

MODE / PIN NO.	STOP
IC3101	
1	1.0
2	0.6
3	1.0
4	0.5
5	0.6
6	0.6
7	1.9
8	---
9	0
10	---
11	2.9
12	0
13	0
14	1.9
15	1.9
16	1.9
17	0
18	2.9
19	0.9
20	1.0
21	0
22	0
23	0
24	0
25	---
26	2.9
27	0
28	1.2
29	0
30	5.0
31	0.5
32	0.6
33	0
34	0.1
35	0
36	0
37	0
38	0
39	---
40	---
41	5.0
42	0
43	---
44	0
45	0
46	0
47	---
48	---
49	0
50	---
51	1.5
52	1.5
53	1.5
54	1.5

MODE / PIN NO.	STOP
55	2.9
56	2.9
57	0
58	---
59	1.5
60	1.5
61	1.5
62	1.1
63	0
64	0
IC5001	
1	2.9
2	0
3	1.5
4	2.4
5	3.0
6	0.6
7	0
8	0
9	0
10	0.8
11	0
12	---
13	0
14	0.1
15	0
16	1.9
17	1.0
18	0
19	0
20	1.9
21	---
22	---
23	---
24	---
25	---
26	1.2
27	1.2
28	4.7
29	1.5
30	4.6
31	4.6
32	4.6
33	1.5
34	---
35	0.8
36	0
37	5.0
38	0
39	2.6
40	2.2
41	2.9
42	2.9
43	2.1
44	---

MODE / PIN NO.	STOP
IC8001	
1	1.7
2	0
3	0
4	1.8
5	2.5
6	1.8
7	2.5
8	1.8
9	2.5
10	4.3
11	1.5
12	4.2
13	8.4
14	3.5
15	3.5
16	3.2
17	1.8
18	3.5
19	1.8
20	3.5
21	1.8
22	3.5
23	2.8
24	2.8
25	0
26	1.4
27	1.4
28	0.4
29	2.5
30	2.7
31	0.2
32	0
33	1.5
34	1.5
35	0
36	2.8
37	0
38	0.8
39	1.9
40	2.8
41	2.8
42	2.8
43	0
44	0
45	0
46	0.5
47	0.2
48	1.5
49	0
50	0.4
51	1.3
52	1.4
53	1.3
54	0

MODE / PIN NO.	STOP
55	0
56	0
57	0.9
58	2.9
59	2.8
60	2.8
61	2.9
62	2.8
63	1.8
64	1.8
Q401	
E	0
C	0
B	1.9
Q1001	
E	8.1
C	8.1
B	0
Q1004	
1	0
2	8.1
3	3.2
4	4.5
5	4.5
Q1005	
1	0
2	8.1
3	5.1
4	2.4
5	2.5
Q1006	
1	0
2	8.1
3	6.4
4	1.3
5	1.3
Q1007	
S	0
D	8.1
G	1.9
Q1008	
1	8.1
2	7.4
3	0
4	8.1
5	8.1
Q1009	
1	8.1
2	7.5
3	0
4	8.1
5	8.1
Q1016	
E	8.5

MODE / PIN NO.	STOP
C	12.0
B	9.1
Q1018	
E	0
C	-3.8
B	-0.6
Q1019	
E	-6.8
C	-15.0
B	-7.3
Q1022	
E	0
C	9.1
B	0.6
Q1024	
E	0
C	2.1
B	-0.2
Q1025	
E	0
C	4.1
B	0
Q1026	
1	0
2	0
3	0
4	5.0
5	5.0
6	5.0
Q1040	
E	5.0
C	4.9
B	0.1
Q1041	
E	0
C	0
B	1.9
Q1042	
E	2.9
C	0
B	0
Q1043	
E	0
C	0
B	0.6
Q1045	
E	12.0
C	12.0
B	11.3
Q1046	
E	0
C	0
B	1.9
Q1047	
E	-15.0

MODE / PIN NO.	STOP
C	-15.0
B	2.9
TP1	5.0
TP3	5.0
TP4	2.9
TP5	3.3
TP6	2.9
TP8	2.6
TP9	1.9
TP10	1.6
TP11	12.0
TP12	12.0
TP13	-7.0
TP14	-15.0
TP15	0
TP16	0
TP17	0
TP20	8.1
TP21	8.1
TP22	2.9
TP23	0
TP3001	1.0
TP3002	0
TP3003	0.9
TP3026	1.9
TP3027	0
TP3028	0.1
TP3029	0.8
TP3030	1.9
TP3201	0.2
TP3202	0
TP3203	1.9
TP3205	1.9
TP3206	0
TP3207	0
TP3208	0
TP3209	0
TP3904	2.9
TP3905	0.7
TP3906	1.9
TP3907	1.9
TP3908	0
TP3909	2.9
TP3910	2.9
TP3911	0
TP3912	0.1
TP3913	0
TP3914	1.9
TP3921	2.8
TP3922	2.8
TP8001	3.7
TP8002	3.5
TP8003	3.5
TP8004	3.2

MODE / PIN NO.	STOP
TP8005	2.5
TP8006	2.5
TP8007	2.5
TP8008	4.3

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE / PIN NO.	REC	PLAY
IC2001		
1	7.5	7.5
2	1.9	0.9
3	0	0
4	1.7	1.7
5	0.4	0.4
6	0.4	0.4
7	1.2	1.2
8	0	0
9	0	0
10	1.9	1.9
11	1.6	1.6
12	3.0	3.0
13	2.2	2.2
14	1.5	1.5
15	0.1	0.1
16	0.1	0.1
17	0	0
18	2.5	2.5
19	1.5	1.5
20	---	---
21	1.5	1.5
22	1.5	1.5
23	0	0
24	0	0
25	7.9	7.9
26	0	0
27	0.6	0.6
28	0.5	0.6
29	0.5	0.6
30	2.4	2.4
31	2.4	2.4
32	0.6	0.6
33	0.1	0.1
34	0.1	0.1
35	0.5	0.5
36	1.5	1.5
37	1.5	1.5
38	1.0	1.1
39	2.2	2.2
40	0.3	0.3
41	1.2	1.2
42	1.2	1.2
43	1.9	1.9
44	0	0
45	1.3	1.4
46	1.4	1.4
47	1.3	1.3
48	1.2	1.2
49	1.2	1.2
50	1.2	1.2
51	1.2	1.2
52	1.2	1.2
53	1.2	1.2
54	1.0	1.0
55	0.2	0.2
56	1.9	1.9
57	1.0	1.0
58	0	0
59	2.9	2.9
60	1.9	1.9
61	0	0
62	1.0	1.0
63	7.7	7.7
64	7.9	7.9
IC2002		
1	---	---
2	1.5	1.5
3	1.5	1.5
4	0	0
5	1.5	0
6	1.5	0
7	---	0
8	5.0	5.0
IC6002		
1	2.9	2.9
2	2.9	2.9
3	2.9	2.9
4	2.9	2.9
5	0	0
6	2.9	2.9
7	---	---
8	2.8	2.8
IC6005		
1	2.5	2.5
2	2.8	2.8
3	2.9	2.9
4	0	0
5	2.9	2.9
6	2.9	2.9
7	2.5	2.5
8	0	0
9	---	---
10	3.3	3.3
11	3.3	3.3
12	0.5	0.5
13	3.3	3.3
14	2.9	2.9
15	3.3	3.3
16	8.1	8.1
IC6008		
1	2.5	2.5
2	3.3	3.3
3	---	---
4	0	0
Q6002		
E	0	0
C	0.1	0.1
B	2.9	2.9
Q6003		
E	0.2	0.1
C	7.3	7.3
B	0.2	0
Q6004		
E	0	0
C	4.9	4.7
B	0	0
Q6008		
E	0.1	0.1
C	3.3	3.3
B	0.1	0.1
Q6009		
E	0.1	0.1
C	1.9	1.9
B	0	0.1
Q6010		
E	2.8	2.8
C	2.8	2.8
B	2.9	2.9
Q6011		
E	2.8	2.8
C	-1.8	-2.5
B	2.9	2.9
Q6012		
E	2.8	2.8
C	-1.9	-2.7
B	2.9	2.9
Q6013		
E	2.8	2.8
C	2.8	2.8
B	0	0
TP6001	0	0
TP6002	2.9	2.9
TP6003	2.9	2.9
TP6004	2.9	2.9
TP6005	2.9	2.9
TP6006	2.5	2.5
TP6007	2.9	2.9
TP6008	2.9	2.9
TP6011	2.9	2.9
TP6012	2.9	2.9
TP6013	2.9	2.8
TP6014	2.9	2.5
TP6015	2.9	2.8
TP6016	0	0
TP6017	1.4	1.4
TP6018	0	0
TP6019	0	0
TP6020	0	0

VOLTAGE CHART
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

LCD BACKLIGHT C.B.A.

MODE / PIN NO.	STOP
Q8101	
E	0
C	0.1
B	3.1
Q8102	
E	0
C	0.1
B	1.9
Q8103	
E	12.0
C	11.9
B	11.2
Q8104	
E	3.2
C	3.1
B	2.4
Q8105	
E	7.3
C	11.9
B	7.9
Q8106	
E	0
C	7.9
B	0.5
Q8107	
E	0
C	0.1
B	1.9
Q8108	
E	4.9
C	4.9
B	4.2
TP8101	2.5
TP8102	2.5
TP8103	2.5
TP8104	4.3
TP8105	1.3
TP8106	4.9

JACK C.B.A.

MODE / PIN NO.	STOP
Q4001	
E	4.3
C	5.0
B	5.0
Q4002	
E	4.3
C	2.3
B	3.7
Q4003	
E	0.5
C	3.7
B	1.0
Q4004	
E	4.3
C	2.3
B	3.7
Q4005	
E	0.5
C	3.7
B	1.0
TP7001	0
TP7002	1.9
TP7003	3.2
TP7004	0

VOLTAGE CHART
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

10 CIRCUIT BOARD LAYOUT

10.1. MAIN C.B.A.

MAIN C.B.A. LSEP8295A1 (A, B) / LSEP8295B1 (C, D, E, F, G) / LSEP8295C1 (H, I)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 2A 32V

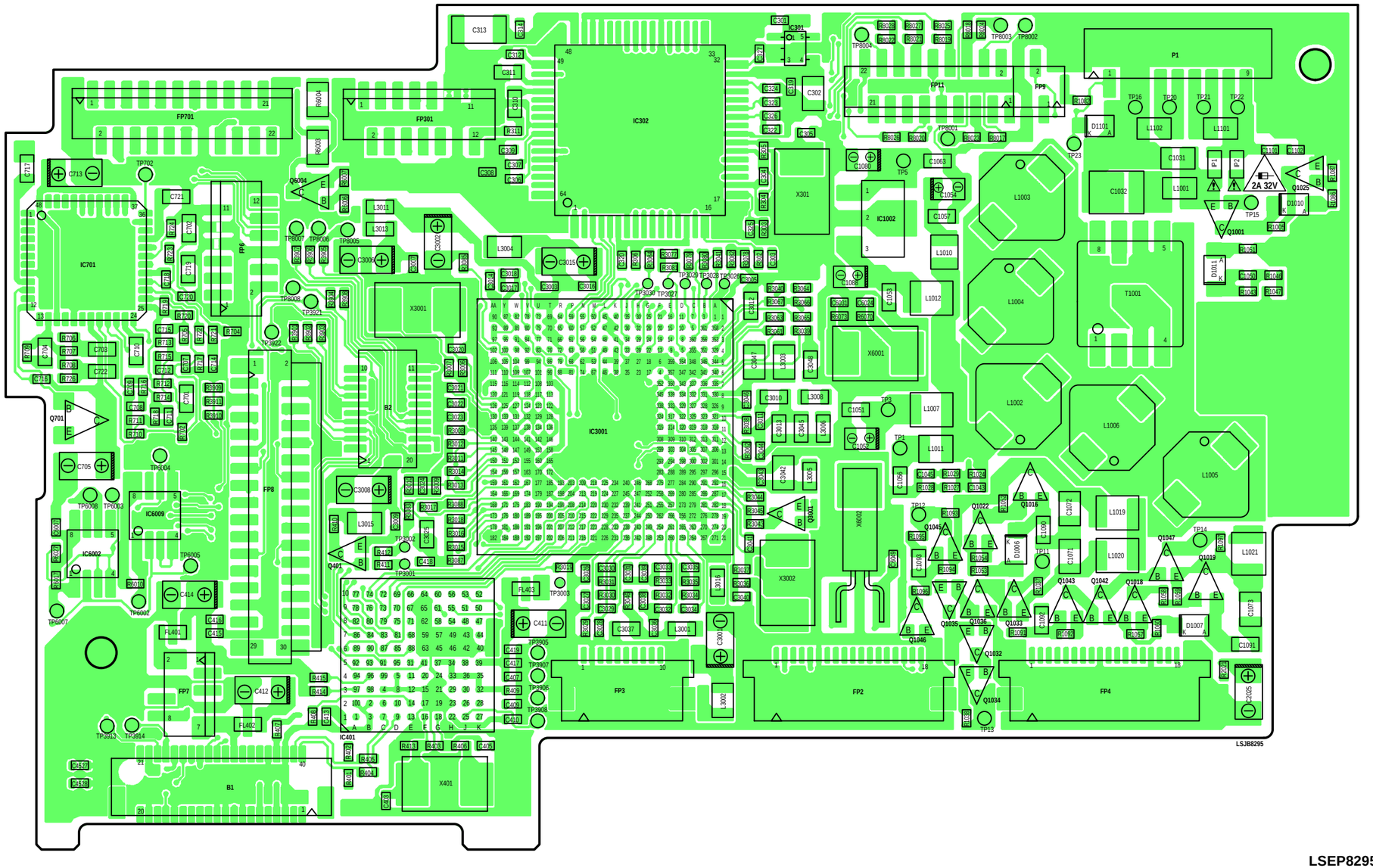
2A 32V

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

(COMPONENT SIDE)



MAIN C.B.A. LSEP8295A1 (A, B) / LSEP8295B1 (C, D, E, F, G) / LSEP8295C1 (H, I)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

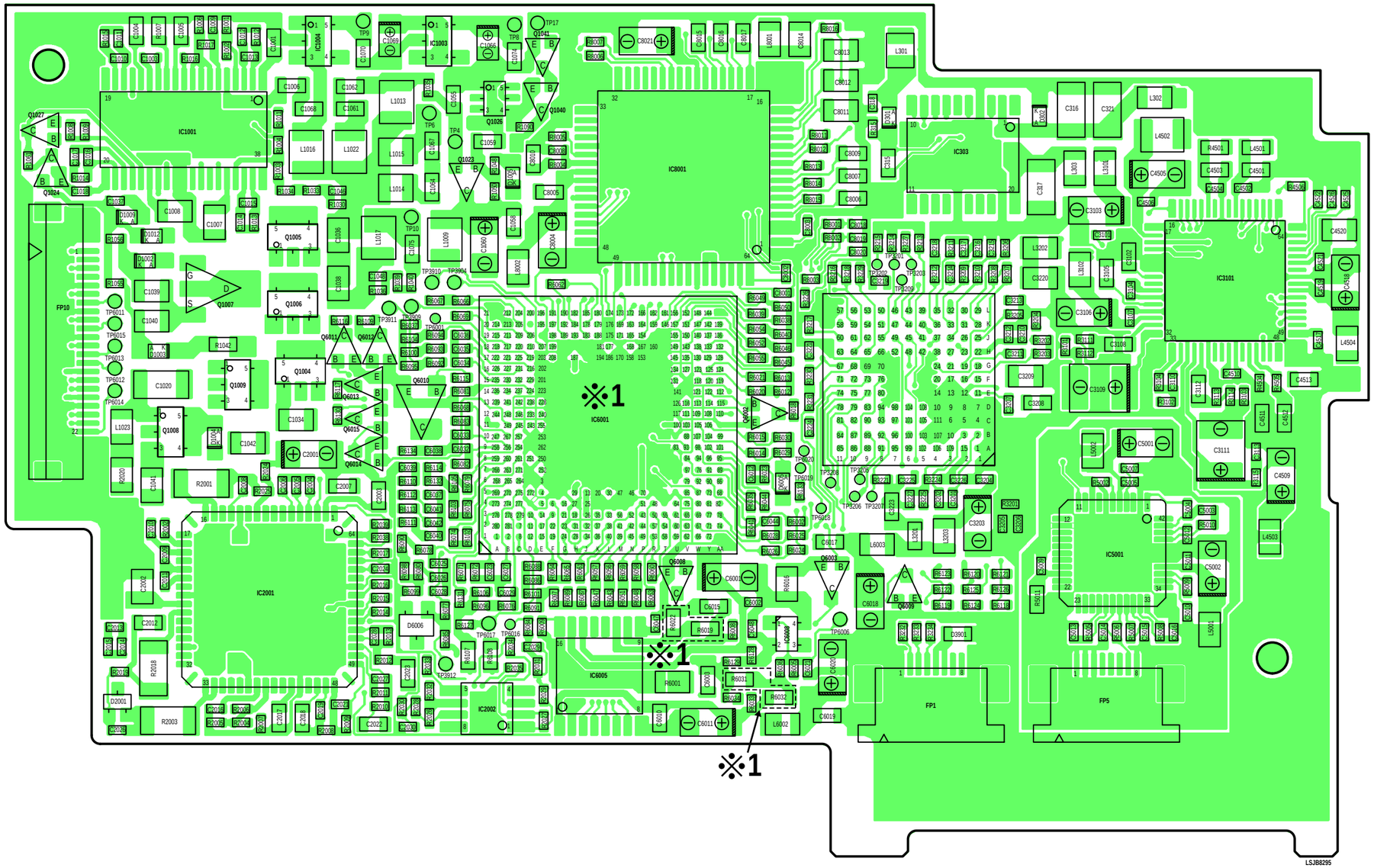
NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

(FOIL SIDE)



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IC6001 replacement note:
Two types of IC6001 (FLASH or MASK) are used on a running change basis, however MASK TYPE of IC6001 is supplied only as a replacement part. And MASK TYPE of IC6001 is supplied as IC6001 Kit with R6022 and R6031.

Types of IC6001

FLASH TYPE	TMP1962F1DXBG, Head Mark
MASK TYPE	TMP1962F1DXBG 0100, Head Mark; 0100: LSUC0028, 0101: LSUC0025

Perform the addtion (R6022 and R6031) and also deletion (R6019 and R6032) of the following part simultaneously, when exchanging from the "FLASH TYPE" to the "MASK TYPE" of IC6001.

	FLASH TYPE	MASK TYPE		
Ref No.	Part No.	Part No.	Part Name	Models
IC6001	- - - - - - - - - -	LSUC0028 (IC6001, R6022 and R6031 are included)	IC6001 Kit	A,B,C,D, E,F,G
IC6001	- - - - - - - - - -	LSUC0025 (IC6001, R6022 and R6031 are included)	IC6001 Kit	H,I
R6019	ERJ3GEY0R00V	- - - - - - - - - -	Resistor	
R6022	- - - - - - - - - -	ERJ3GEY0R00V	Resistor	
R6031	- - - - - - - - - -	ERJ3GEY0R00V	Resistor	
R6032	ERJ3GEY0R00V	- - - - - - - - - -	Resistor	

MAIN C.B.A.
LSEP8295A1/LSEP8295B1/LSEP8295C1
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

10.2. FRONT C.B.A.

FRONT C.B.A. LSEP8296A1 (A, B) / LSEP8296B1 (C, D, E) / LSEP8296D1 (F, G, H. I)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

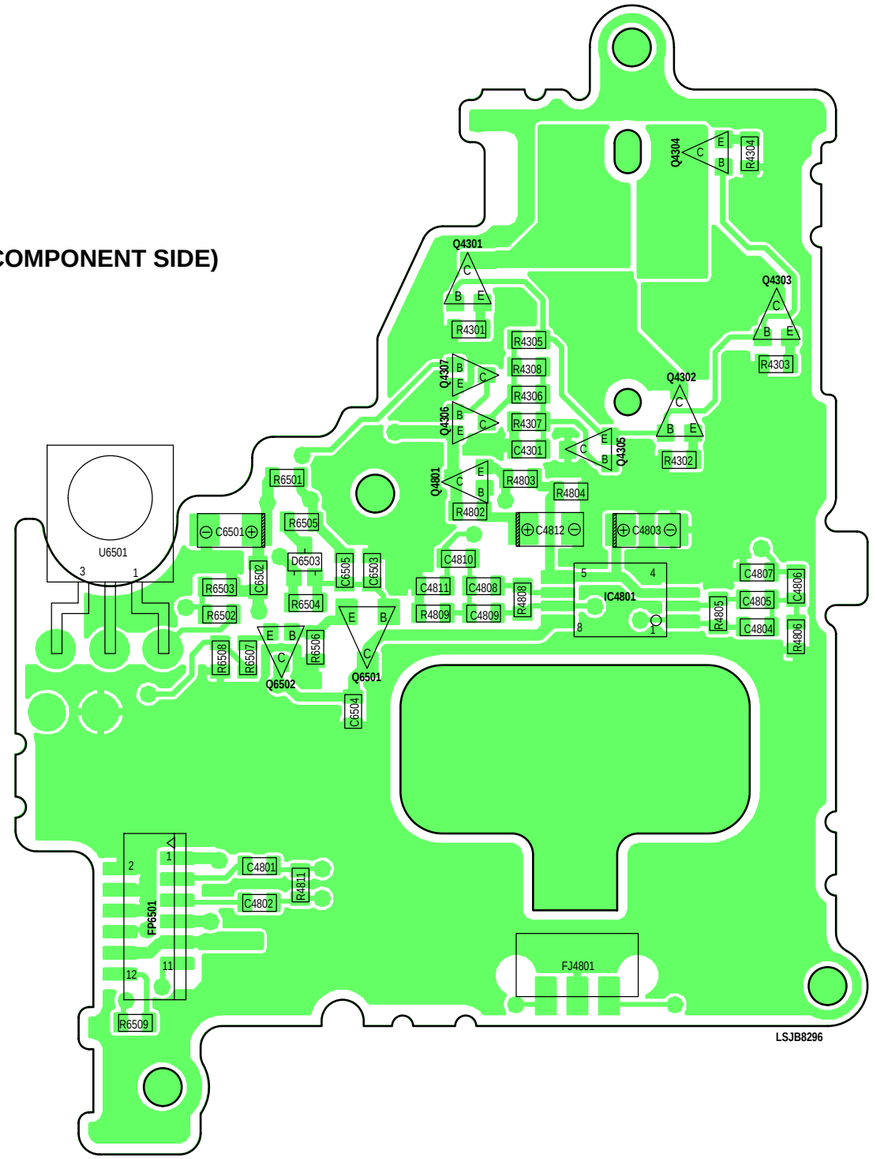
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

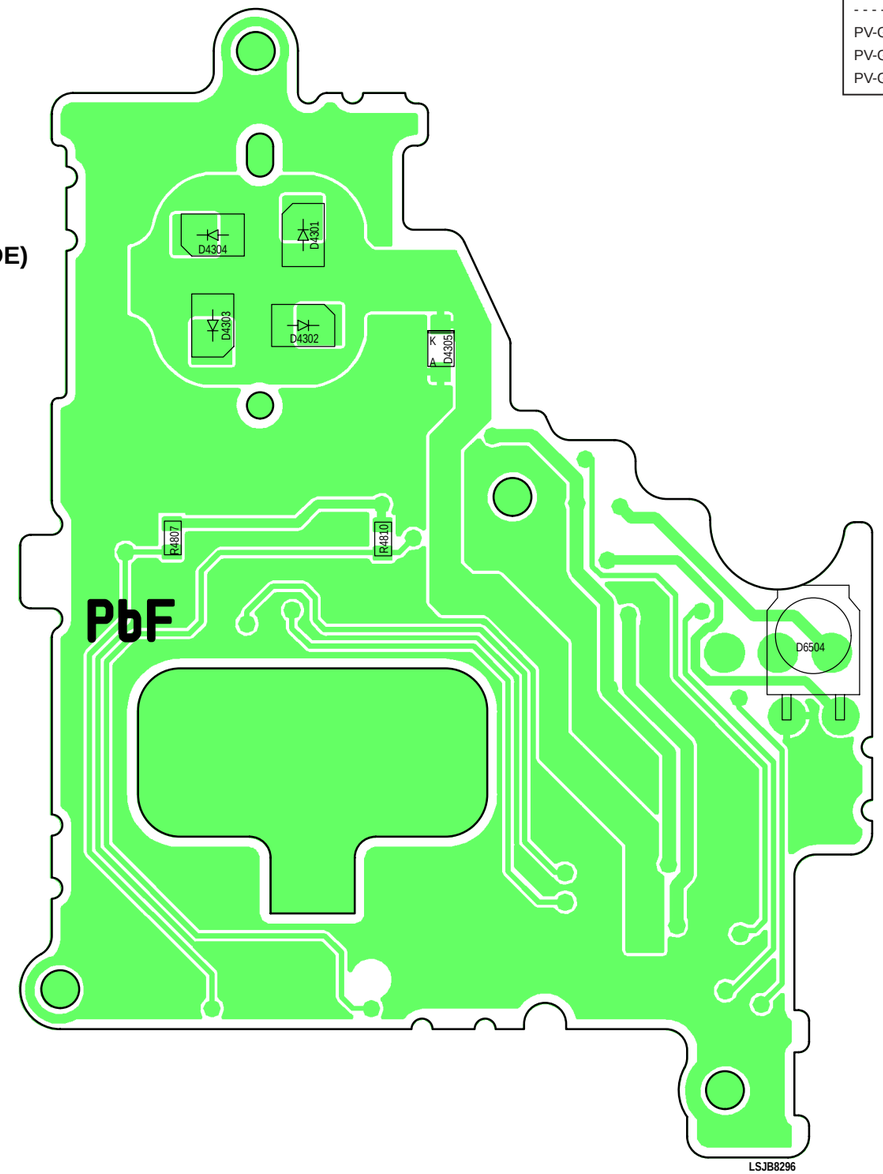
MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

(COMPONENT SIDE)



(DUAL PATTERNS)

(FOIL SIDE)



(DUAL PATTERNS)

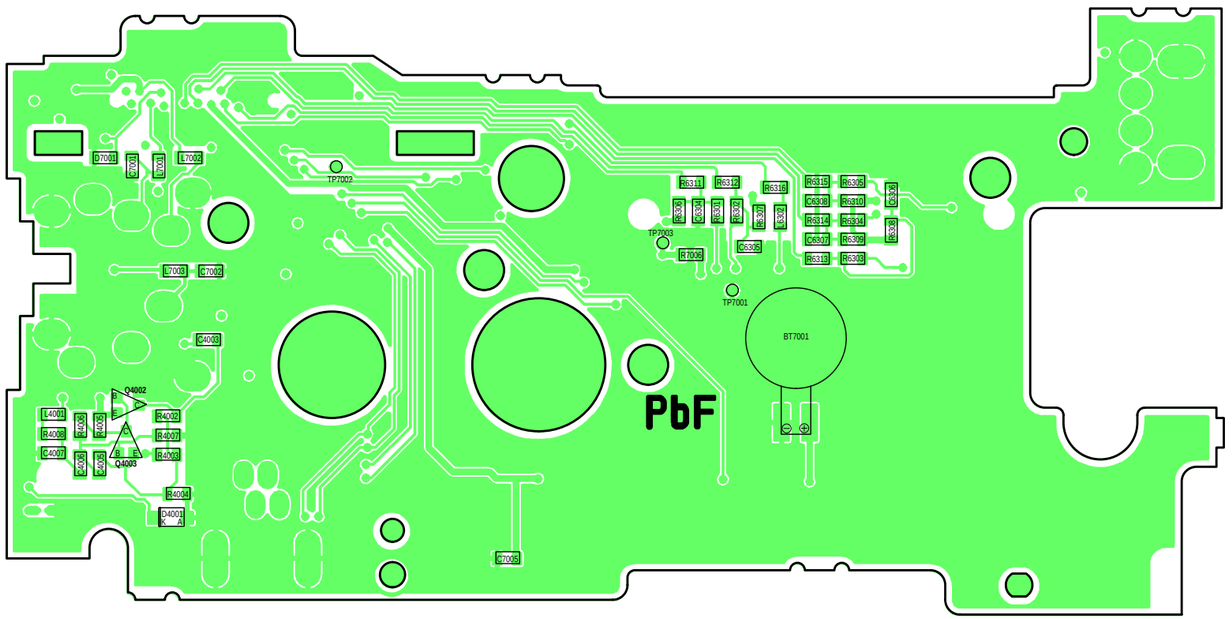
FRONT C.B.A.
LSEP8296A1/LSEP8296B1/LSEP8296D1

PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

10.3. JACK C.B.A.

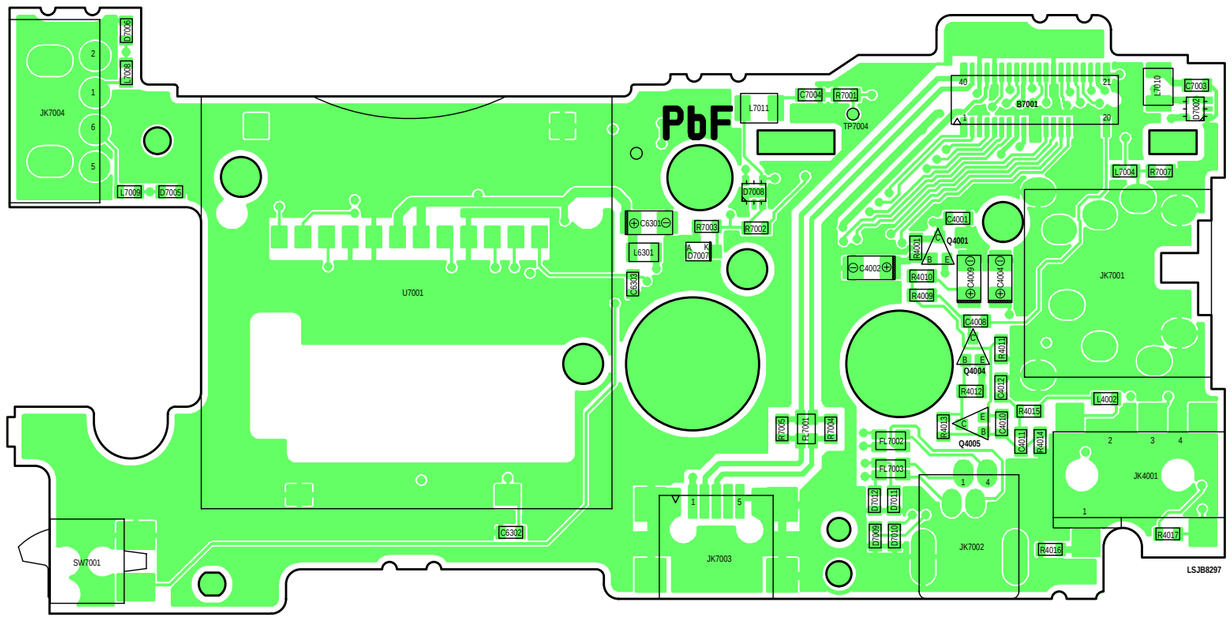
JACK C.B.A. LSEP8297A1 (A, B, C, D, E) / LSEP8297B1 (F, G) / LSEP8297C1 (H, I)

(COMPONENT SIDE)



(DUAL PATTERNS)

(FOIL SIDE)



(DUAL PATTERNS)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

10.4. LCD BACKLIGHT C.B.A.

LCD BACKLIGHT C.B.A. LSEP8298P1

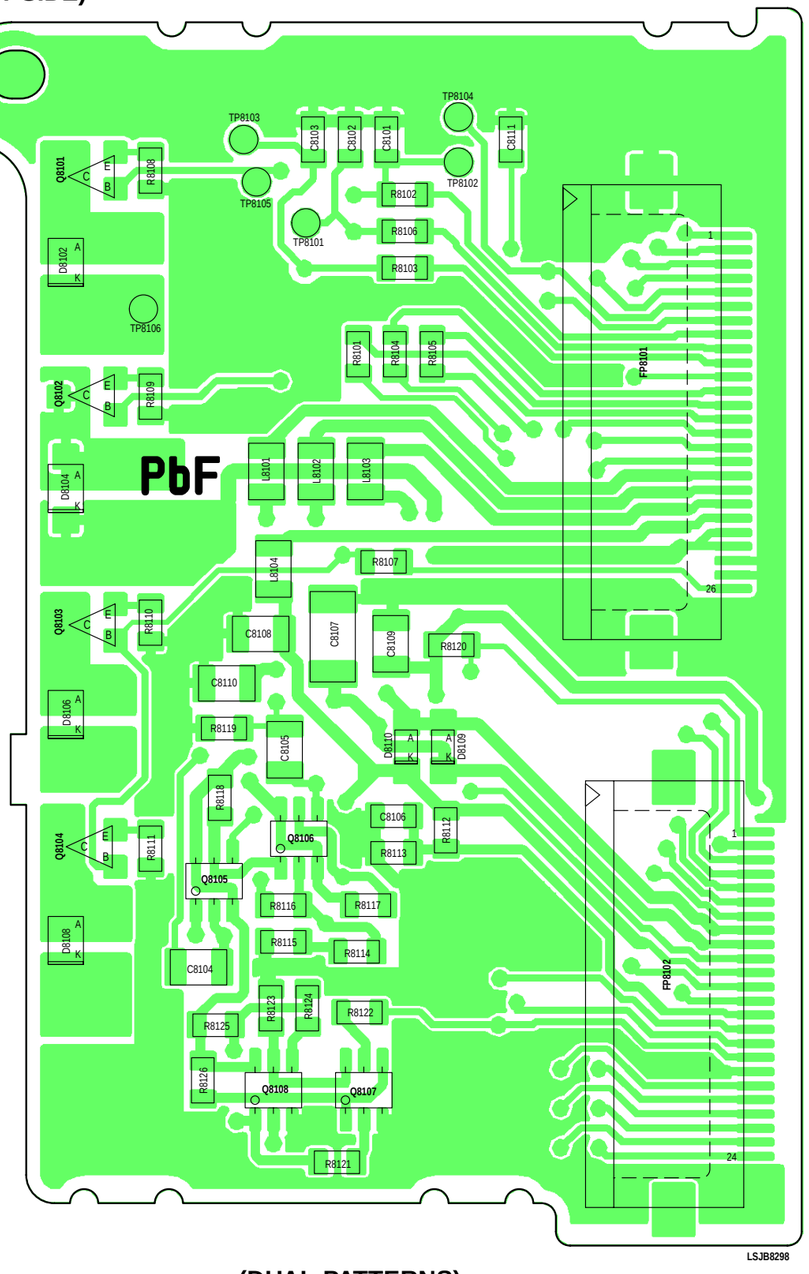
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

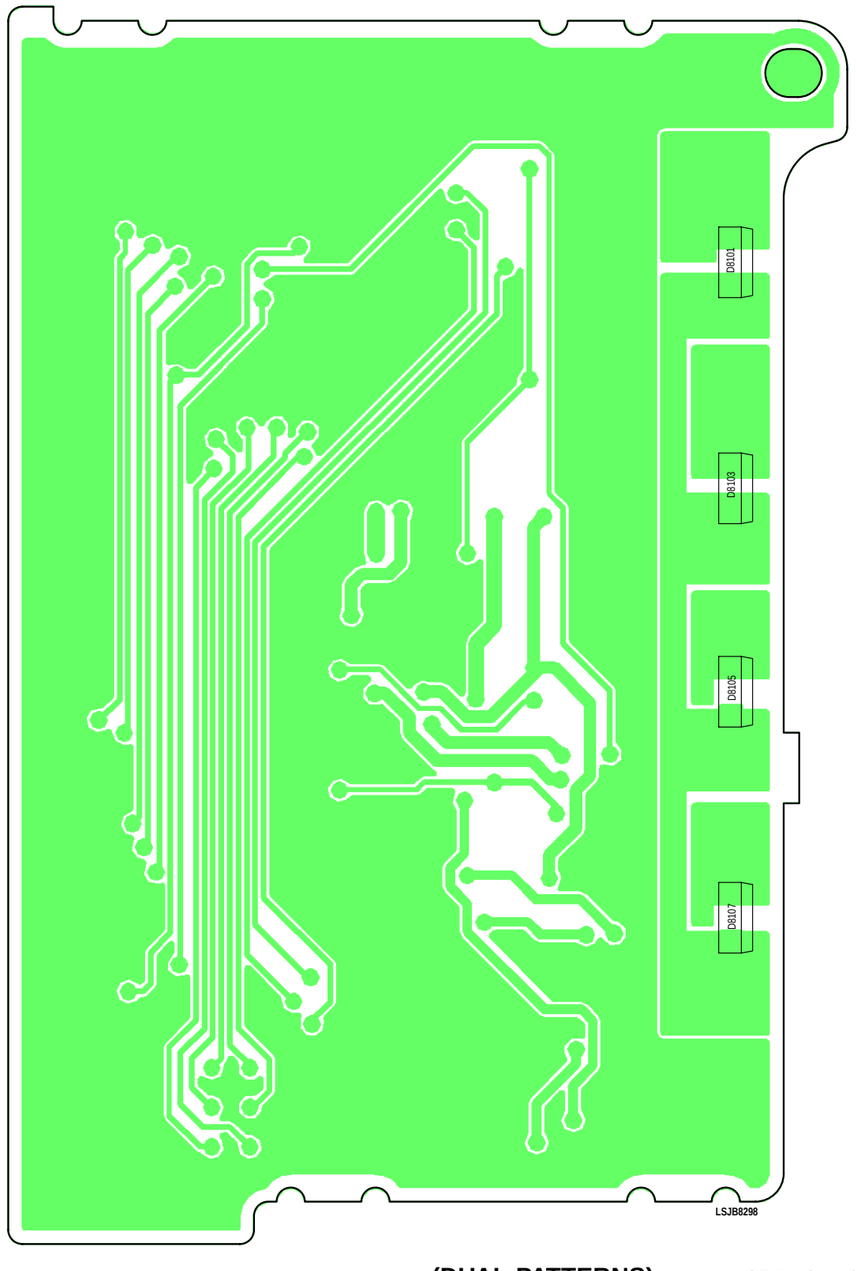
NOTE:
ALL INDIVIDUAL PARTS EXCEPT D8101, D8103, D8105, AND D8107
ON LCD BACKLIGHT C.B.A. ARE SUPPLIED AS REPLACEMENT PARTS.
WHEN SERVICING THESE PARTS, REPLACE LCD BACKLIGHT C.B.A.
INSTEAD OF INDIVIDUAL PARTS.

(COMPONENT SIDE)



(DUAL PATTERNS)

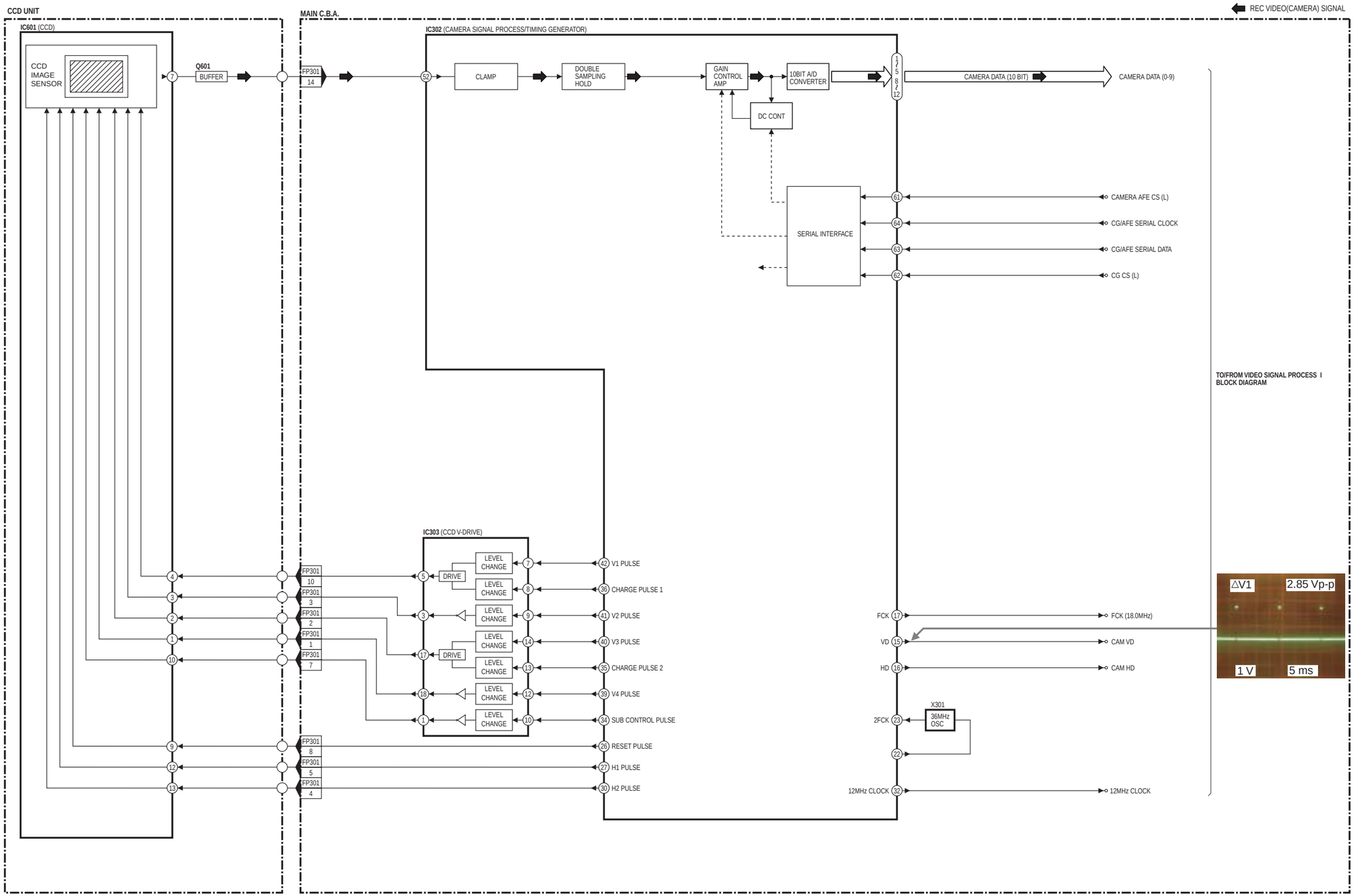
(FOIL SIDE)



(DUAL PATTERNS)

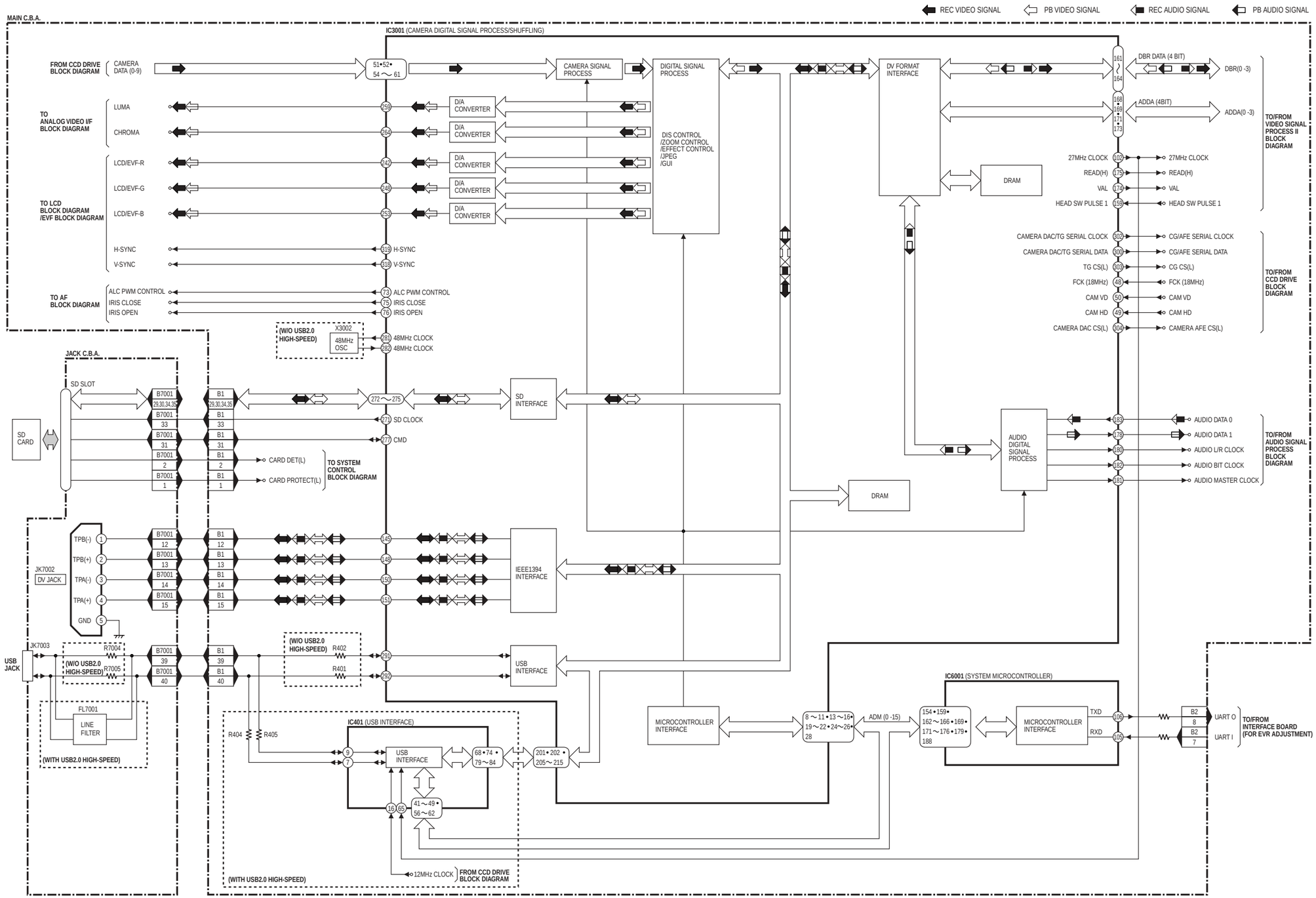
11 BLOCK DIAGRAMS

CCD DRIVE BLOCK DIAGRAM



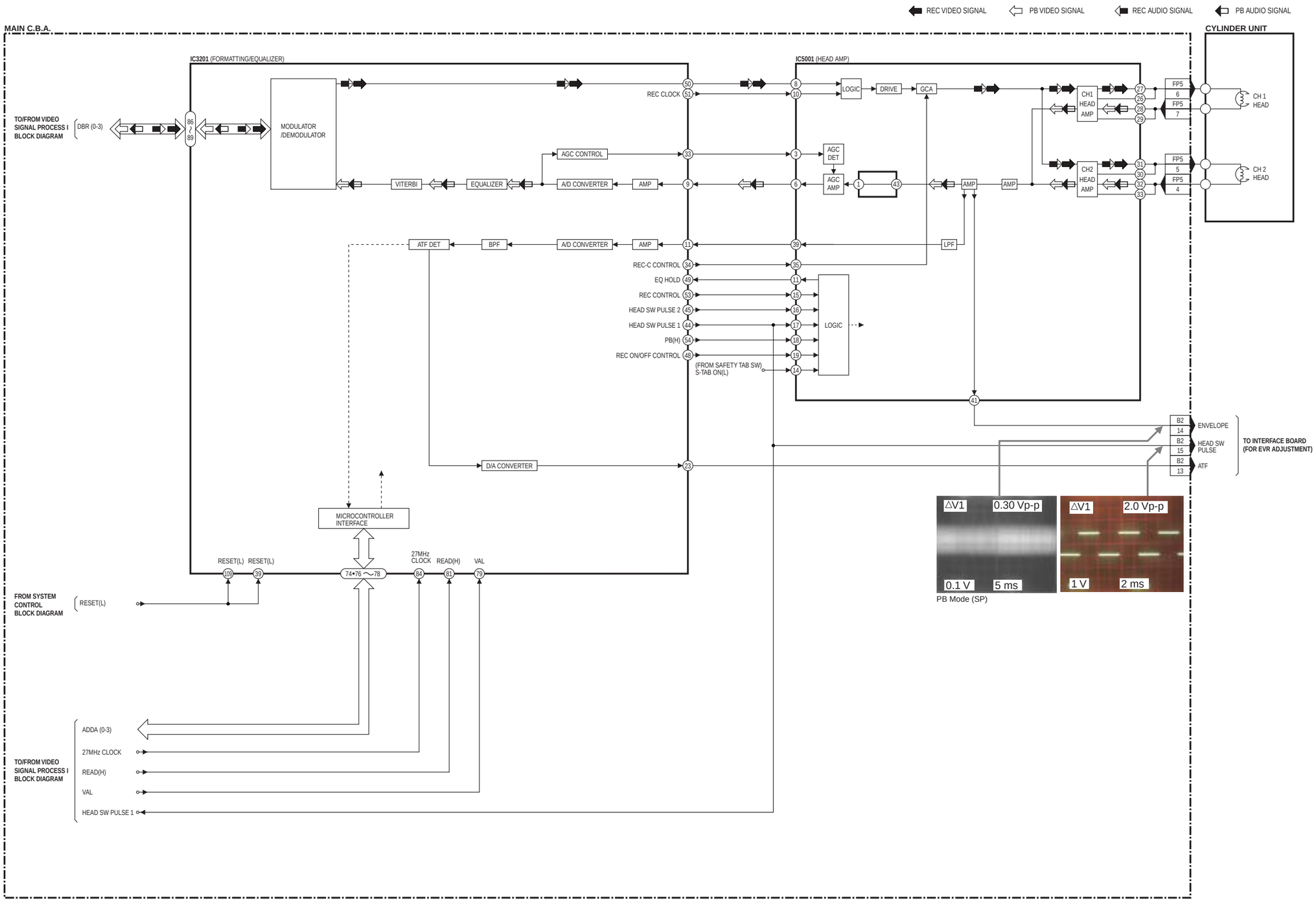
CCD DRIVE BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

VIDEO SIGNAL PROCESS I BLOCK DIAGRAM



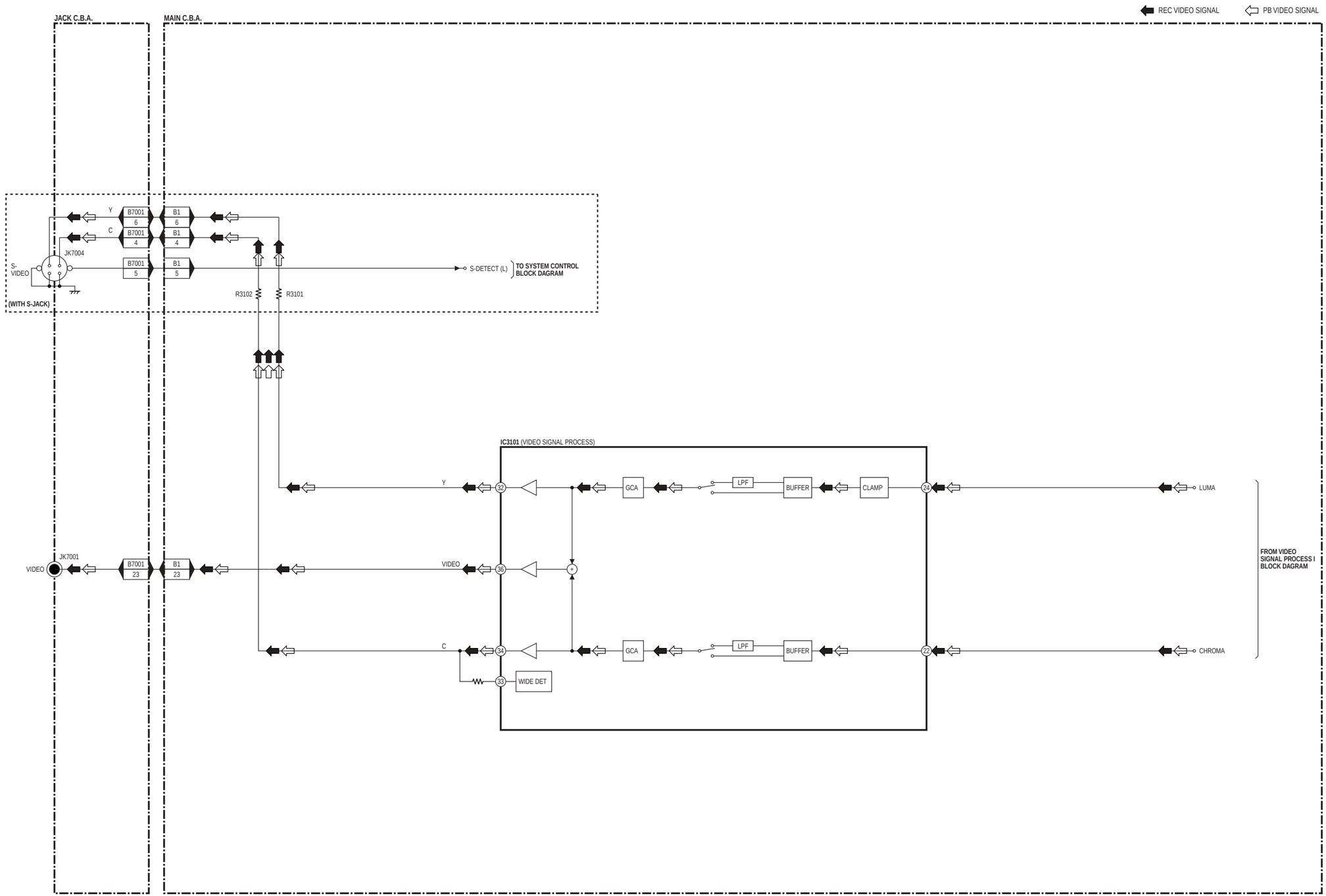
VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

VIDEO SIGNAL PROCESS II BLOCK DIAGRAM



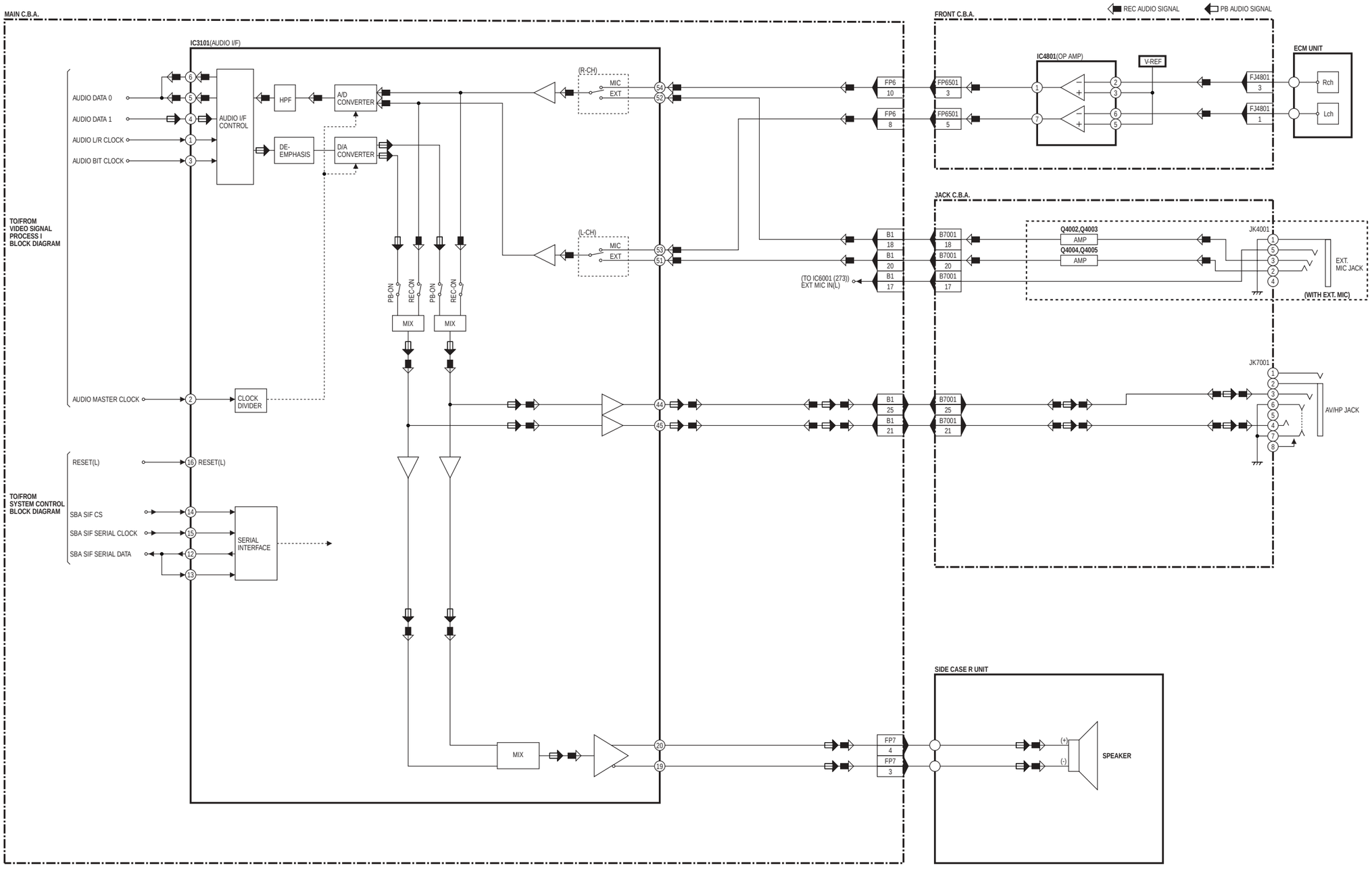
VIDEO SIGNAL PROCESS II BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

ANALOG VIDEO I/F BLOCK DIAGRAM



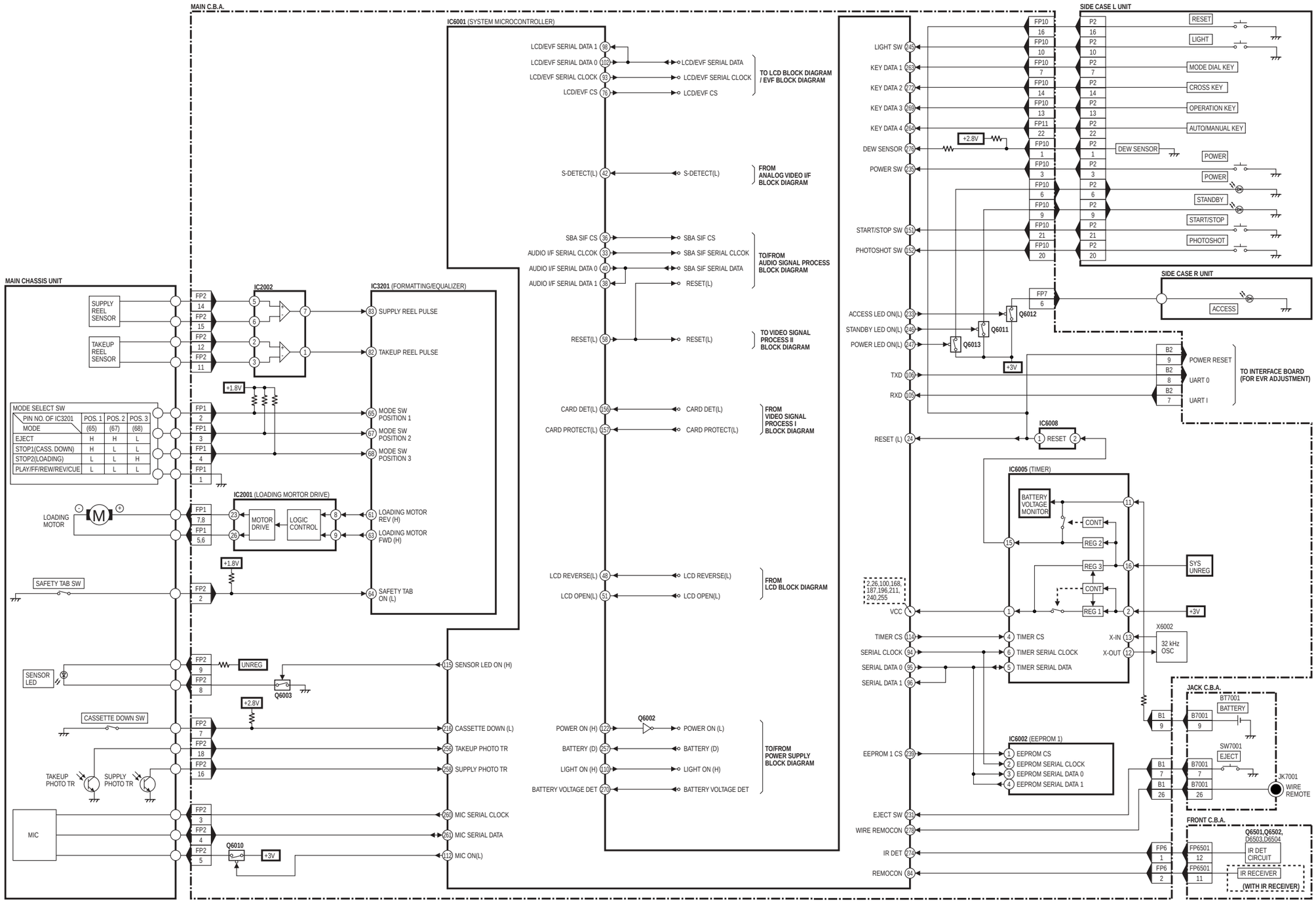
ANALOG VIDEO I/F BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

AUDIO SIGNAL PROCESS BLOCK DIAGRAM



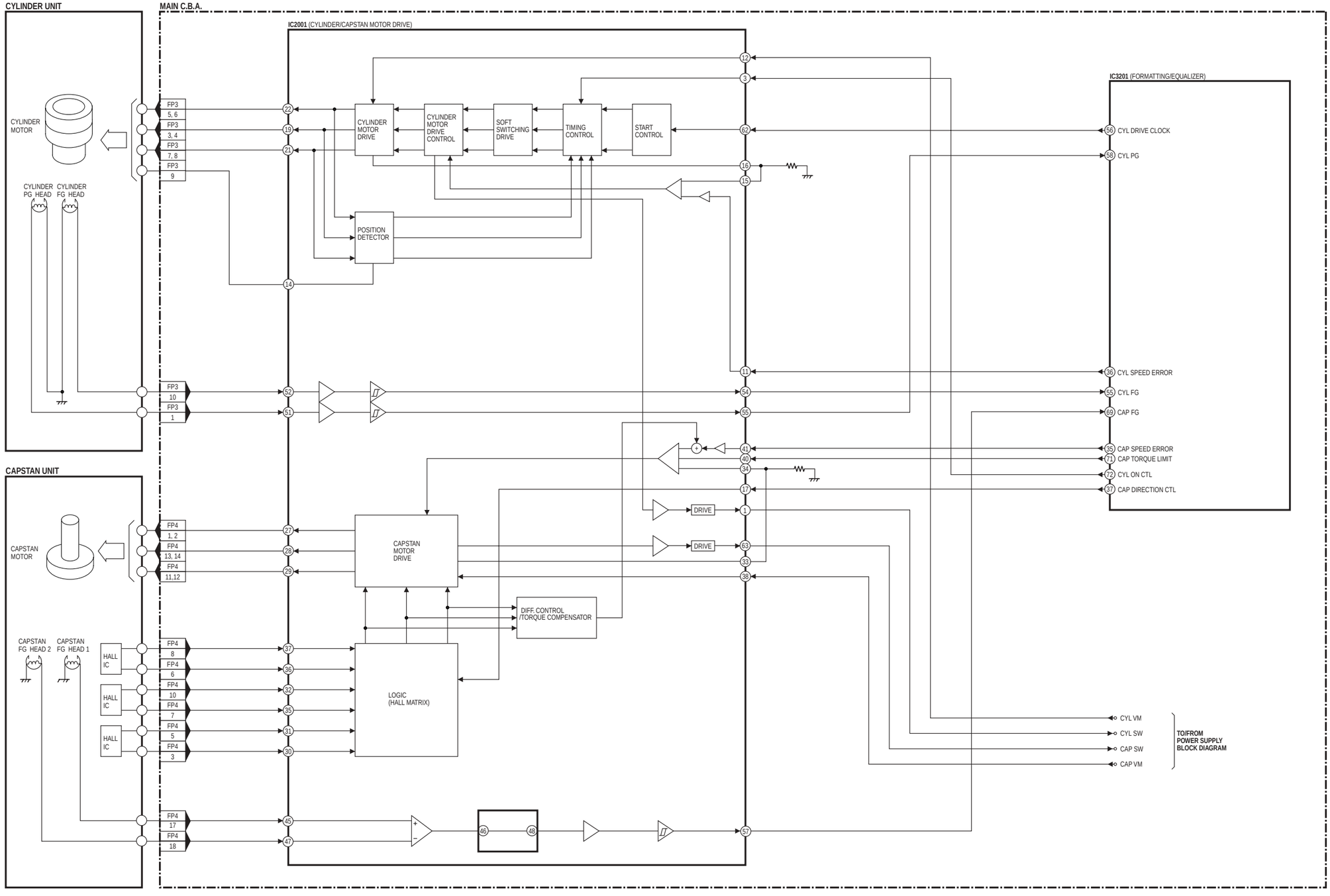
AUDIO SIGNAL PROCESS BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

SYSTEM CONTROL BLOCK DIAGRAM



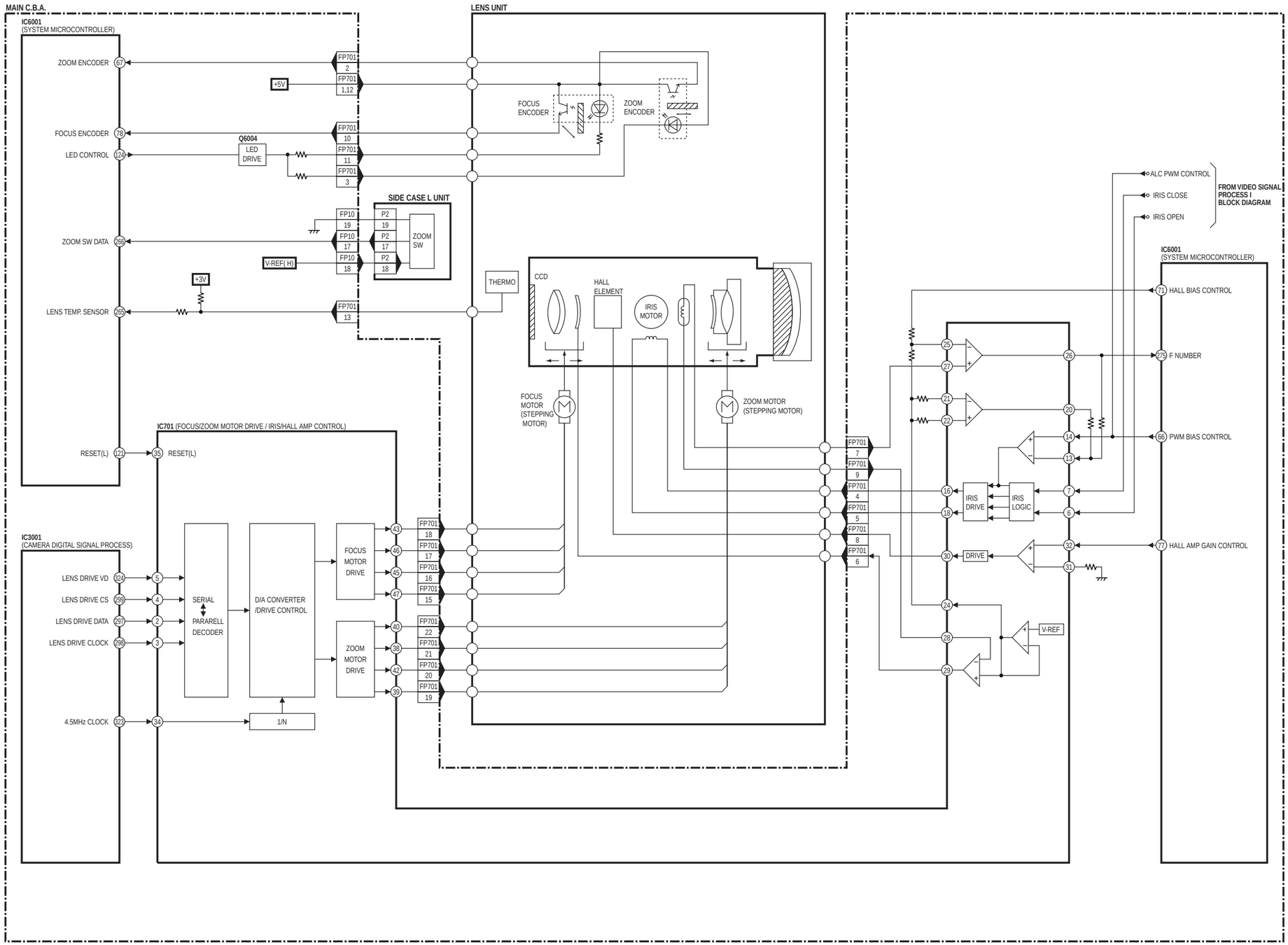
SYSTEM CONTROL BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

SERVO BLOCK DIAGRAM



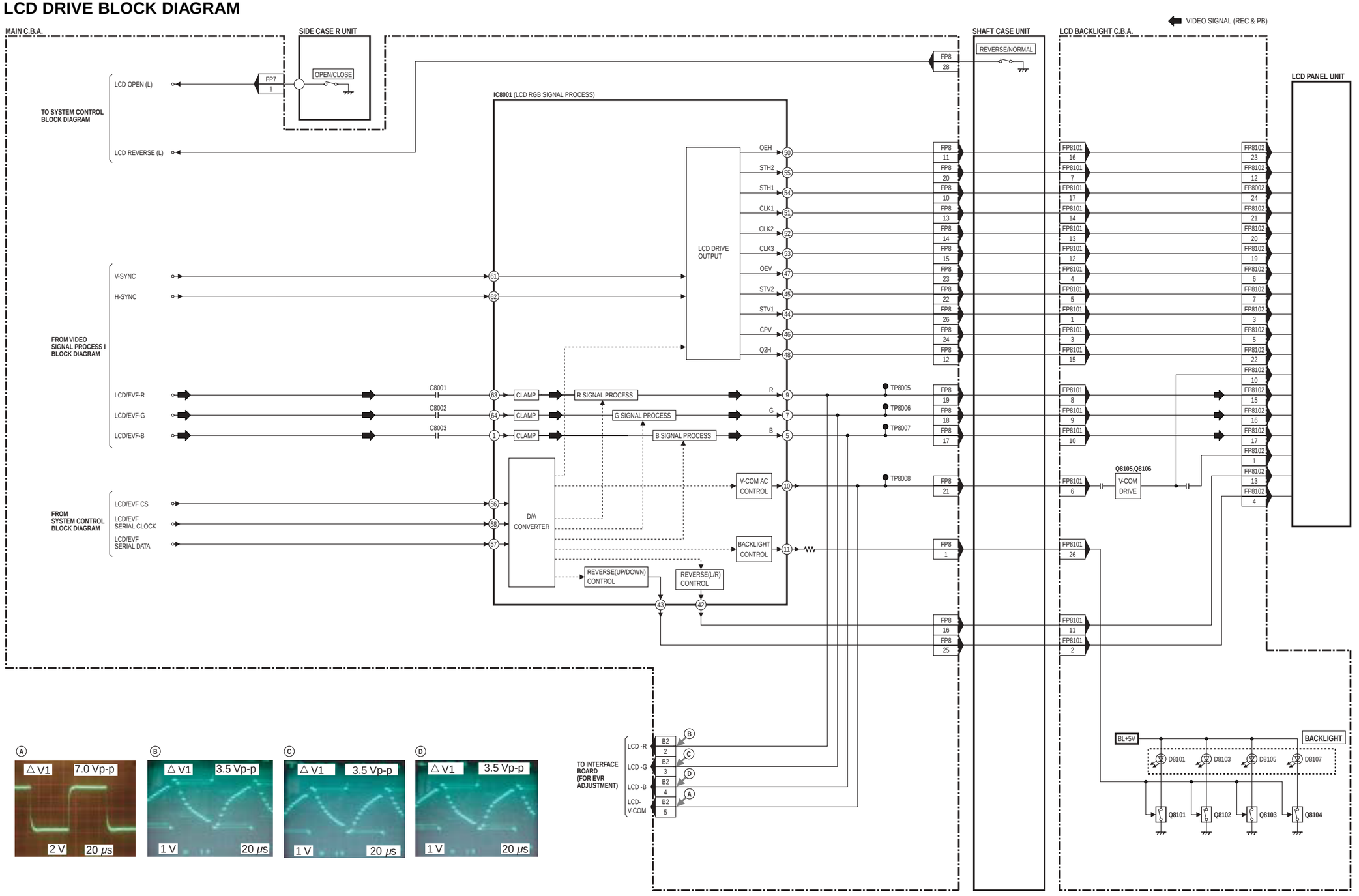
SERVO BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

AF BLOCK DIAGRAM



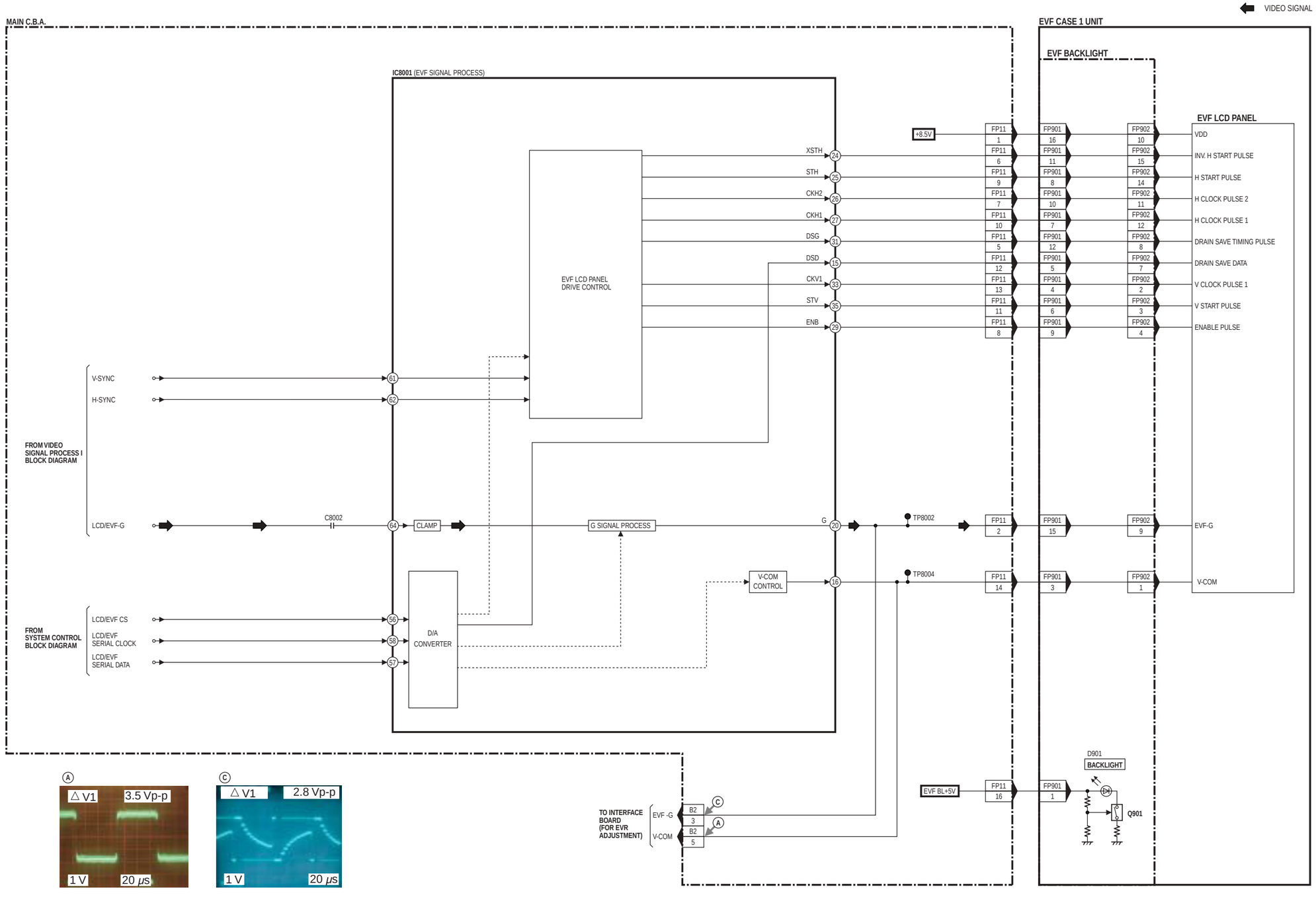
AF BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

LCD DRIVE BLOCK DIAGRAM



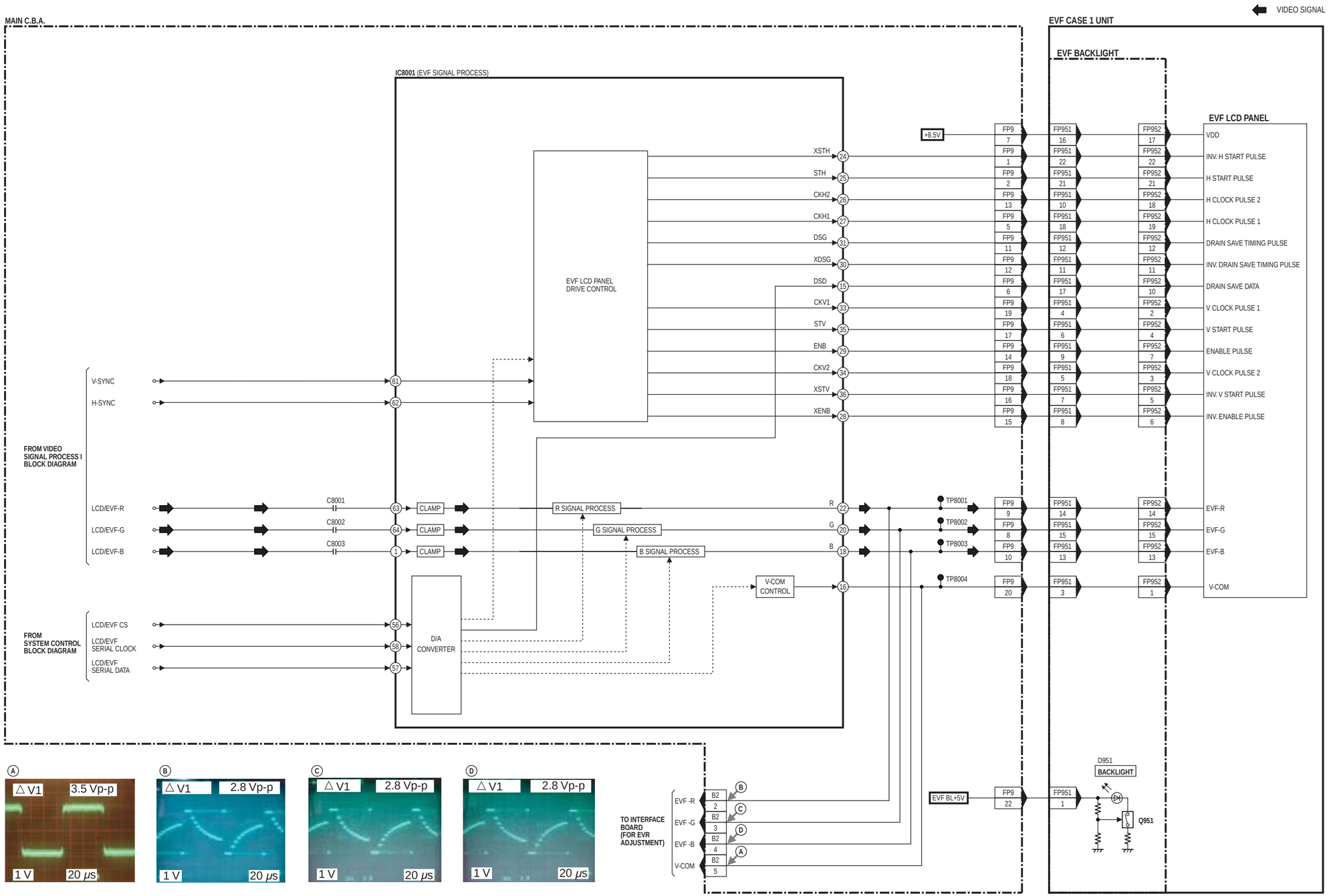
LCD DRIVE BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

EVF BLOCK DIAGRAM (Models: PV-GS19P/PV-GS31P/PV-GS35P)



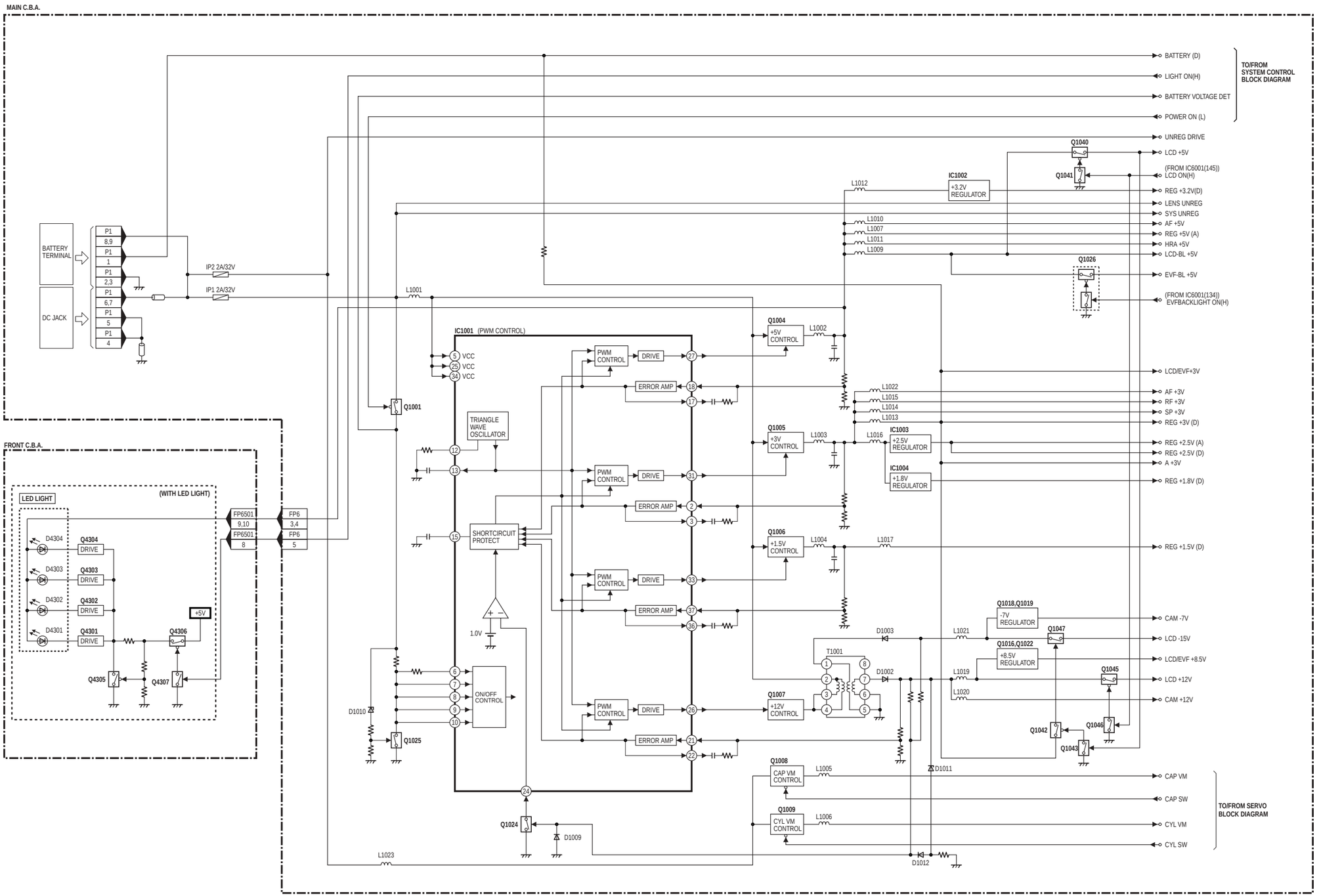
EVF BLOCK DIAGRAM
PV-GS19P/PV-GS31P/PV-GS34P/PV-GS35P

EVF BLOCK DIAGRAM (Models: PV-GS19PC/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35PC)



EVF BLOCK DIAGRAM
PV-GS19PC/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35PC

POWER SUPPLY BLOCK DIAGRAM



POWER SUPPLY BLOCK DIAGRAM
PV-GS19P/PV-GS19PC/PV-GS31P/PV-GS31PC/PV-GS32P/PV-GS34PC/PV-GS35P/PV-GS35PC

12 EXPLODED VIEWS

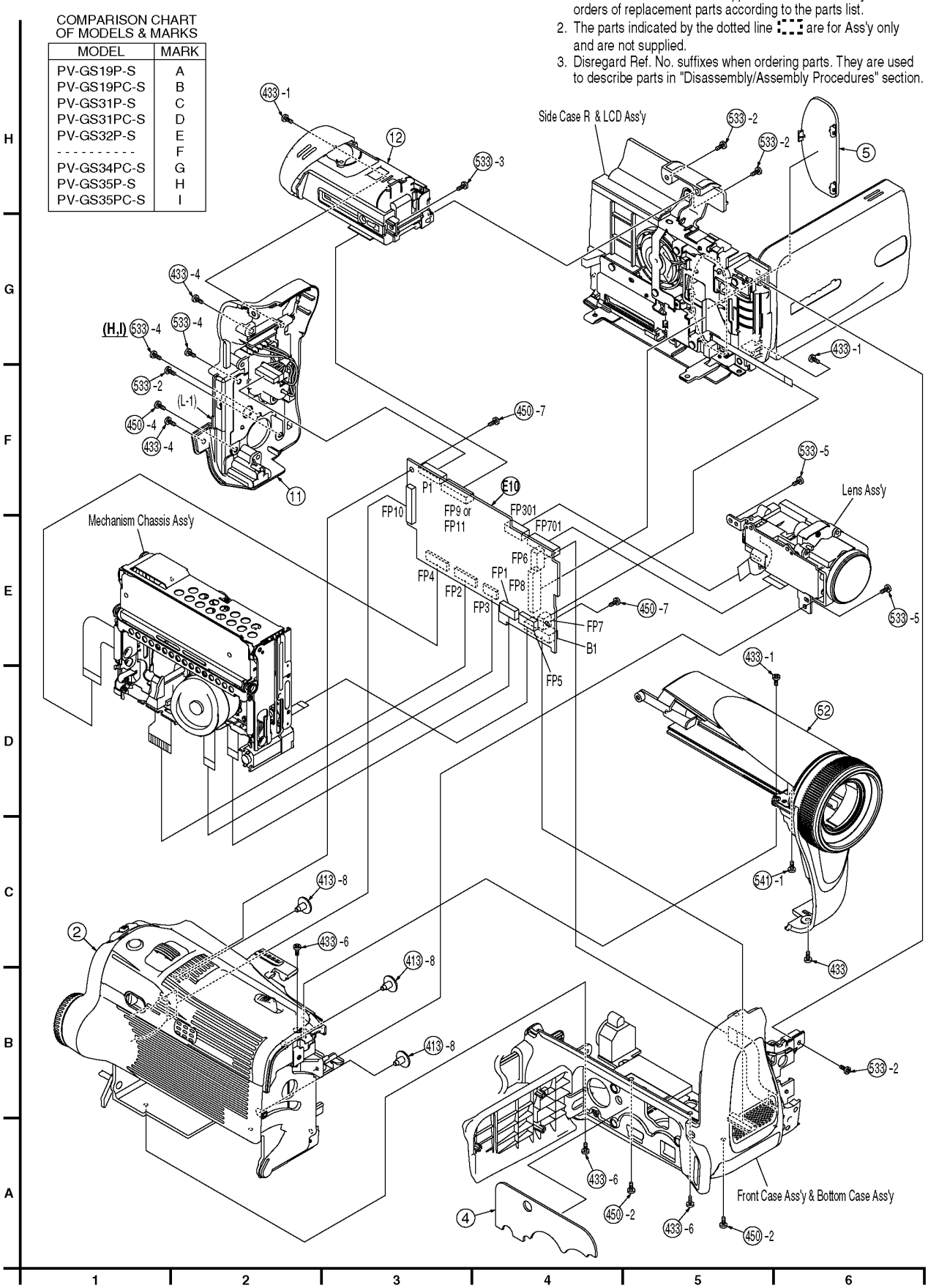
12.1. MAIN PARTS SECTION

❶ MAIN PARTS SECTION

Note:
1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I



12.2. FRONT AND BOTTOM CASE SECTION

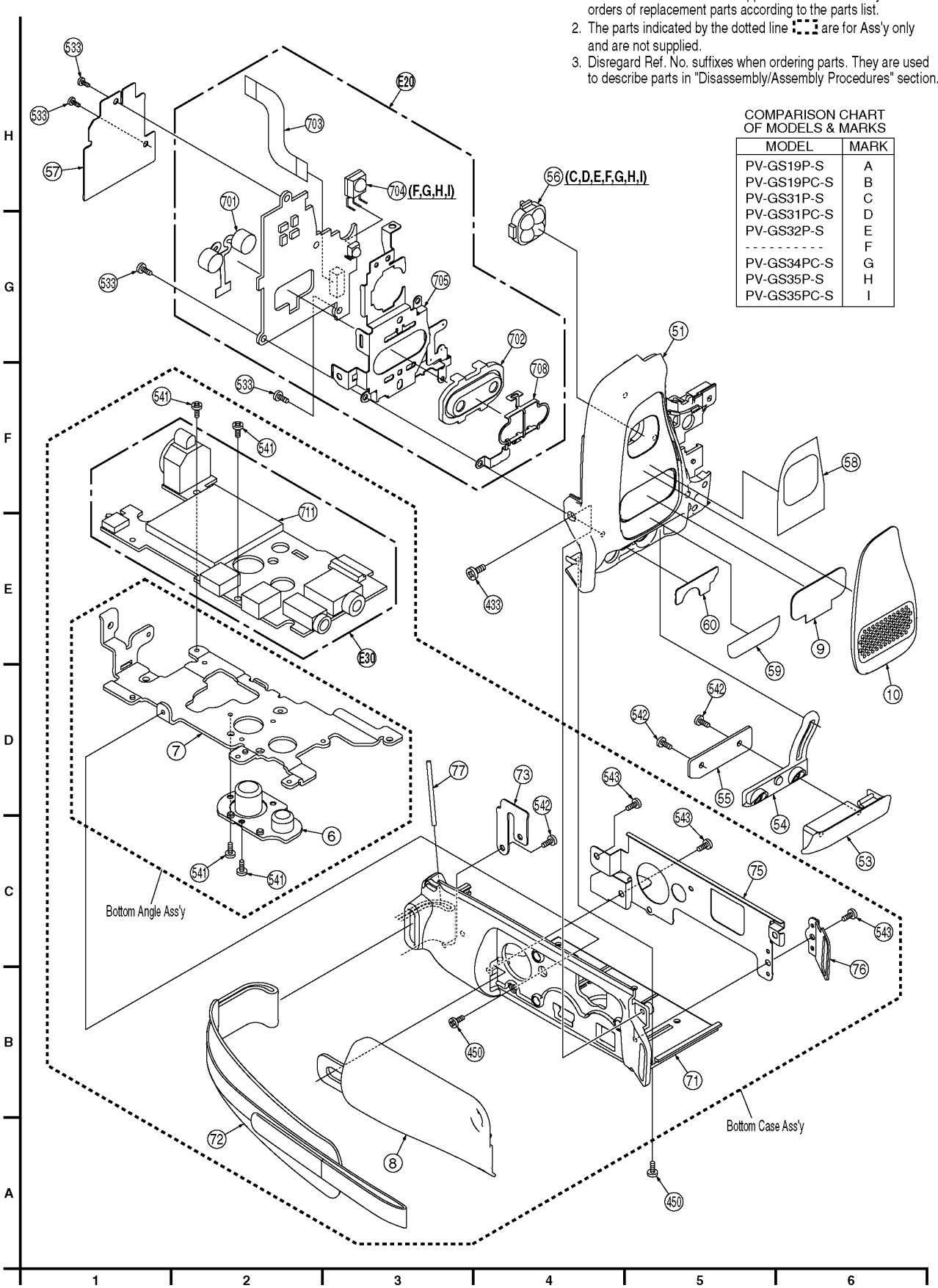
❷ FRONT AND BOTTOM CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

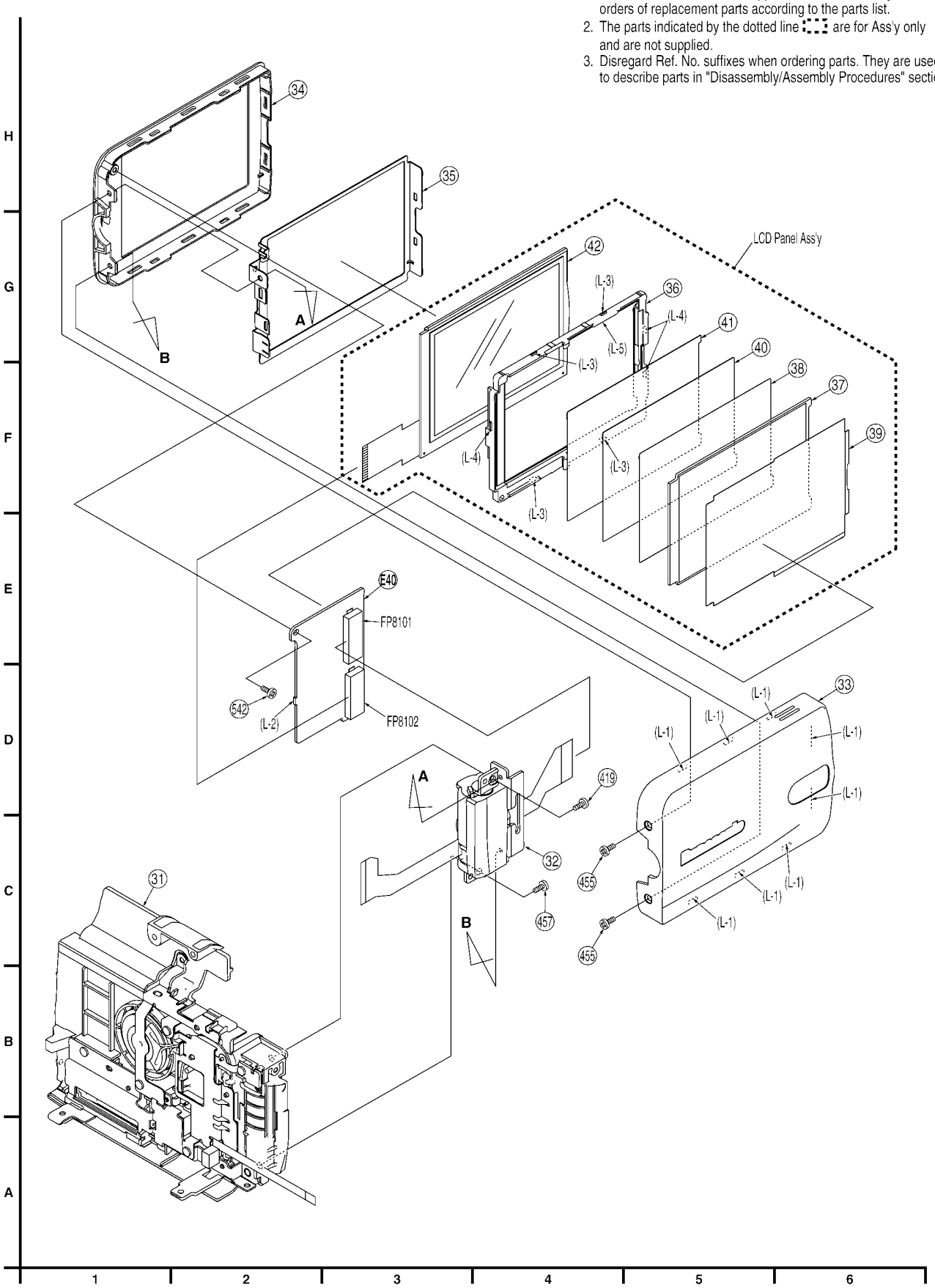


12.3. SIDE CASE R AND LCD SECTION

❸ SIDE CASE R AND LCD SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.



12.4. CCD AND LENS SECTION

❹ CCD AND LENS SECTION

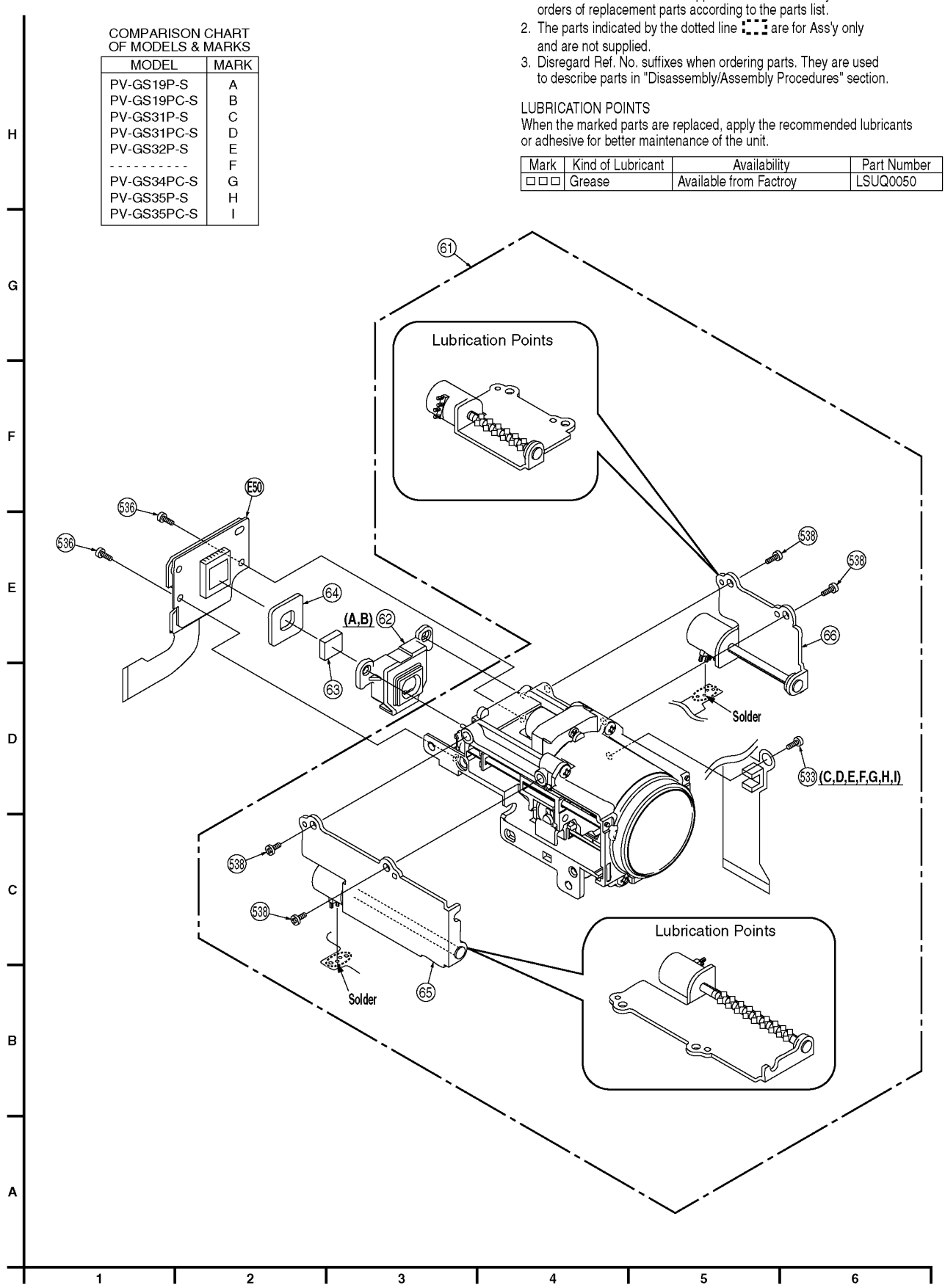
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

Note:
1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

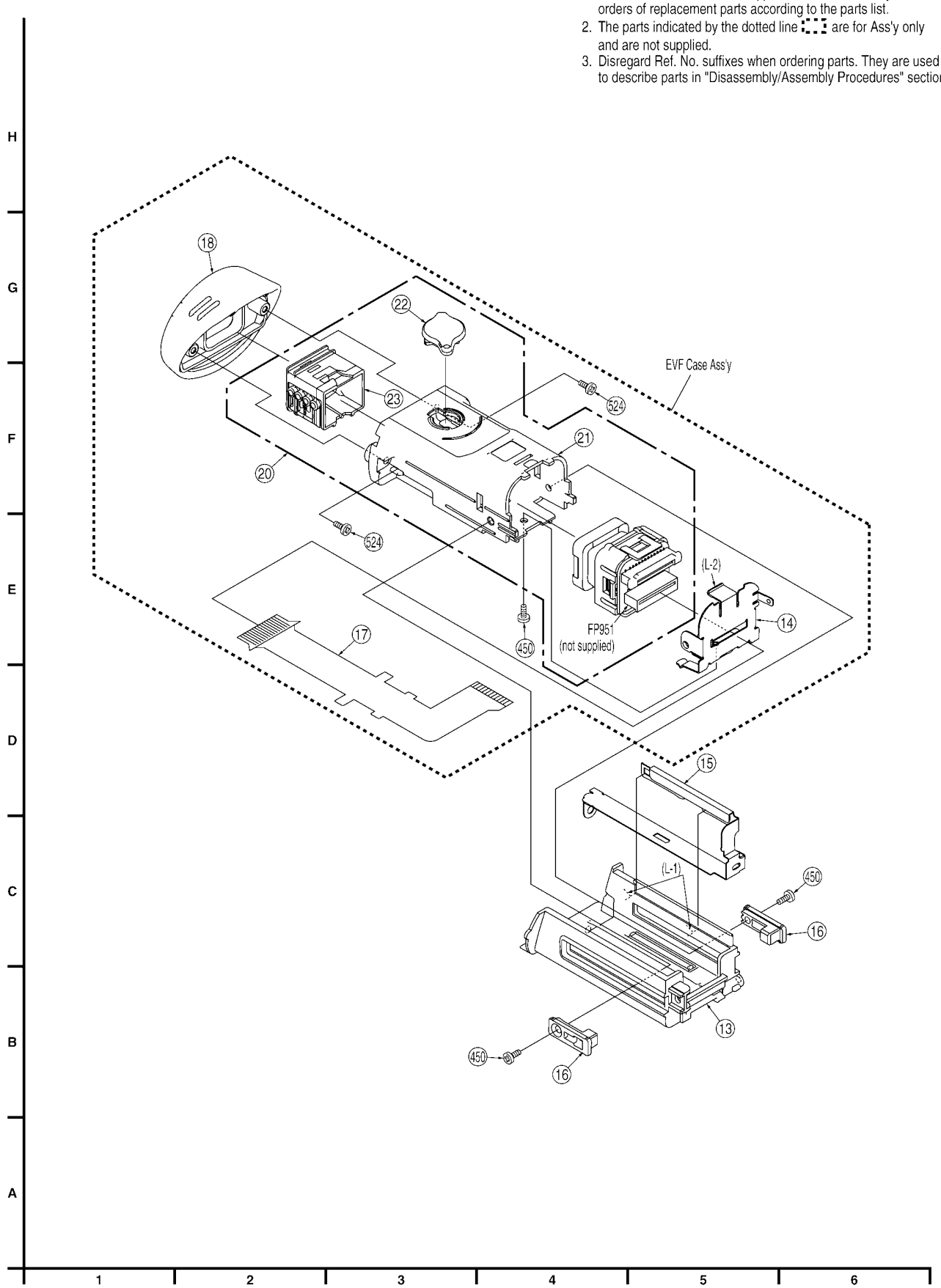
Mark	Kind of Lubricant	Availability	Part Number
□□□	Grease	Available from Factroy	LSUQ0050



12.5. EVF SECTION

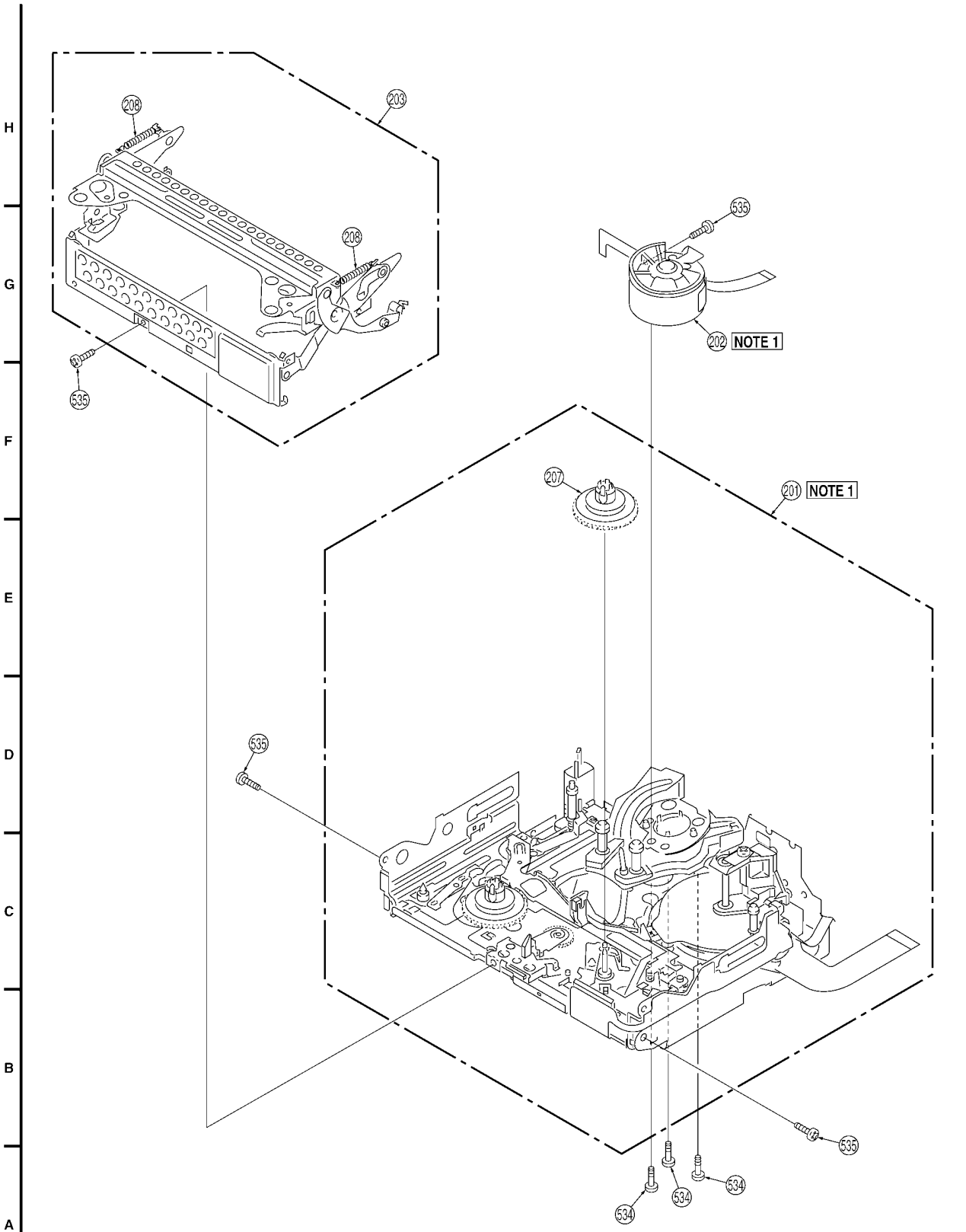
❺ EVF SECTION

Note:
1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.



12.6. MECHANISM SECTION

❻ MECHANISM SECTION



NOTE 1 :
When replacing the Main Chassis Unit (Ref. No. 201) or Cylinder Unit (Ref. No. 202), be sure to perform the Envelope Output Adjustment.
Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.

12.7. PACKING PARTS AND ACCESSORIES SECTION

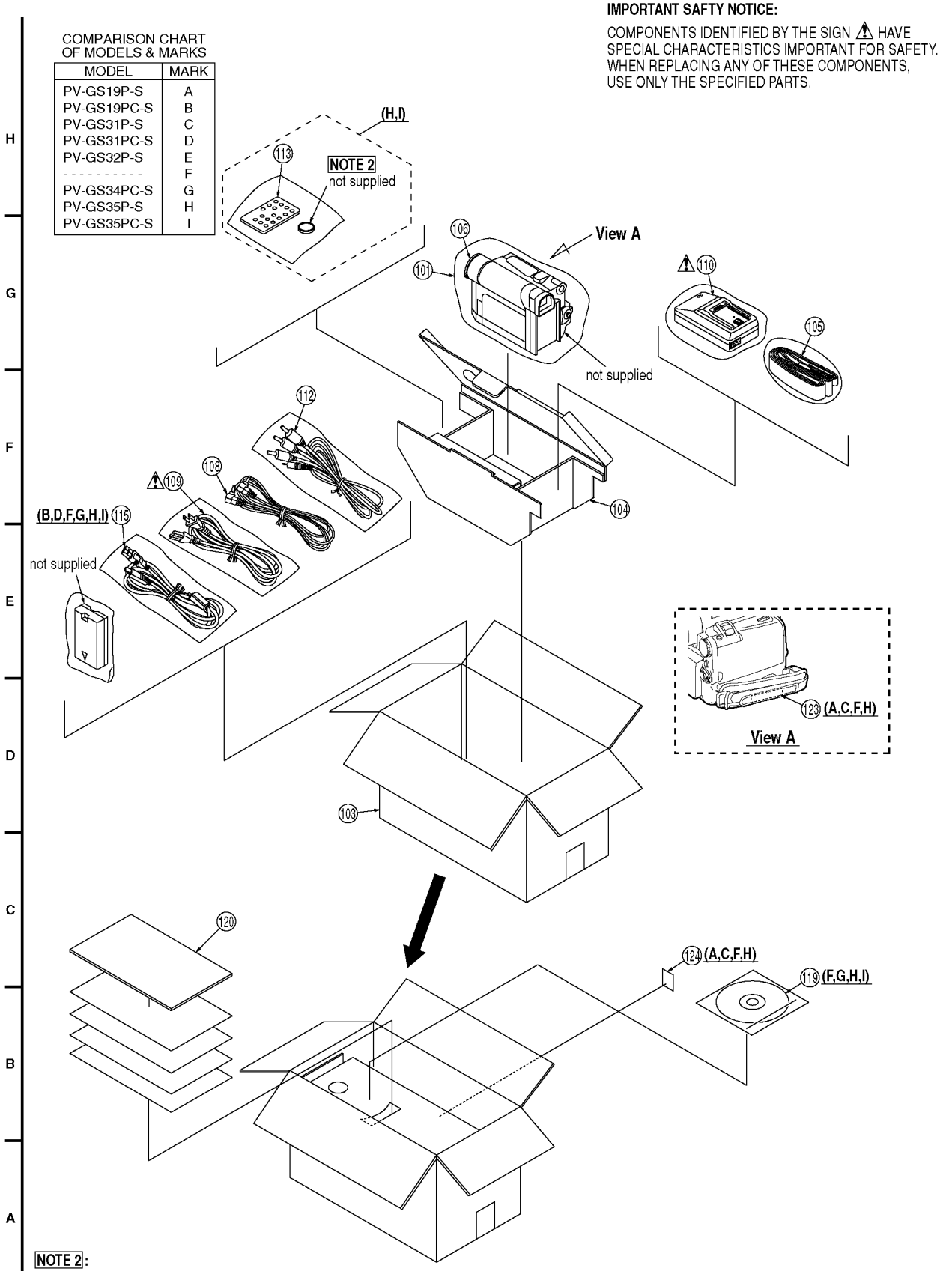
❼ PACKING PARTS AND ACCESSORIES SECTION

IMPORTANT SAFTY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I



NOTE 2:
Battey is not supplied as a replacemet part. Purchase CR2025 battery locally if required.

13 REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

13.1. REPLACEMENT NOTES

13.1.1. General Notes

1. Use only original replacement parts:

   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. **IMPORTANT SAFETY NOTICE**

   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. SPECIAL NOTE

   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Definition of Parts supplier:

   a. Parts with mark "SPC" in the Remarks column are supplied from Spare Parts Center of Panasonic AVC Company.

   b. Parts with mark "MKE" in the Remarks column are supplied from MKE.

   c. Parts without mark in the Remarks column are supplied from MKI.

7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.

8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

13.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. Abbreviation

   RTL: Retention Time Limited

   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

3. Main Chassis Unit (Ref. No. 201) or Cylinder Unit (Ref. No. 202) replacement note:

   When replacing the Main Chassis Unit or the Cylinder Unit, be sure to perform the Envelope Output Adjustment. Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.

13.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

   All resistors are in Ω, K = 1,000 Ω, M = 1,000 kΩ.

2. Abbreviation

   RTL: Retention Time Limited

   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

   NR: Non Repairable Board Ass´y

   MGF CHIP: Metal Glaze Film Chip

   C CHIP: Ceramic Chip

   COMPLX CMP: Complex Component

   W FLMPRF: Wirewound Flameproof

   C.B.A.: Circuit Board Assembly

   P.C.B.: Printed Circuit Board

   E.S.D.: Electrostatically Sensitive Devices

3. SERVICE OF CHIP PARTS

   When servicing chip parts, please use a soldering iron of less than 30 W.

4. When replacing 0 Ω resistor, a wire can be substituted for it.

5. Parts with mark "CSP" in the Remarks column are CSP (Chip Size Package) IC.

6. IC6002 replacement note:

   When replacing this IC, be sure to write the initial data with PC-EVR Adjustment Program.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
- - - - - - - - -	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

13.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
---------	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

Definition of Parts supplier:

1. **Parts with mark "SPC" in the Remarks column are supplied from Spare Parts Center of Panasonic AVC Company.**
2. **Parts with mark "MKE" in the Remarks column are supplied from MKE.**
3. **Parts without mark in the Remarks column are supplied from MKI.**

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
2	LSYK1497	CASSETTE COVER UNIT (A,B)	1
2	LSYK1496	CASSETTE COVER UNIT (C,D,E,F,G,H,I)	1
4	LSQL1827	POST COVER	1
5	LSKF0608	EVR COVER	1
6	LSHN0020	TRIPOD	2
7	LSMA0795	BOTTOM ANGLE	2
8	LSKF0610	L COVER	2
9	LSMF0371	MIC SHEET	2
10	LSGF0533	LIGHT PROTECTOR (A,B)	2
10	LSGF0534	LIGHT PROTECTOR (C,D,E,F,G,H,I)	2
11	LSYK1504	REAR CASE UNIT (A,B,C,D,E,F,G)	1
11	LSYK1505	REAR CASE UNIT (H,I)	1
12	LSYK1506	EVF UNIT (A,B)	1 RTL
12	LSYK1507	EVF UNIT (C,D,E,F,G,H,I)	1 RTL
13	LSKM1107	EVF BASE FRAME	5
14	LSMA0721	EVF SPRING	5
15	LSSC0759	EVF EARTH PLATE	5
16	LSMD0799	EVF SLIDE PIECE	5
17	LSJB8306	EVF FLEXIBLE PRINTED CIRCUIT (A,B)	5
17	LSJB8305	EVF FLEXIBLE PRINTED CIRCUIT (C,D,E,F,G,H,I)	5
18	LSGQ0140	EYE CAP	5
20	LSYK1532	EVF CASE 1 UNIT,ABS RESIN (A,B)	5
20	LSYK1533	EVF CASE 1 UNIT,ABS RESIN (C,D,E,F,G,H,I)	5
21	LSKM1024	EVF CASE,ABS RESIN	5
22	LSGT0068	EYE SIGHT LEVER	5
23	LSYK1415	EVF LENS UNIT	5
31	LSYK1500	SIDE CASE R UNIT,ABS RESIN (A,B)	3
31	LSYK1502	SIDE CASE R UNIT,ABS RESIN (C,D,E,F,G,H,I)	3
32	LSXY0764	SHAFT CASE UNIT,ABS RESIN (A,B)	3
32	LSXY0763	SHAFT CASE UNIT,ABS RESIN (C,D,E,F,G,H,I)	3
33	LSYK1542	LCD CASE A UNIT,ABS RESIN (A,B)	3
33	LSYK1522	LCD CASE A UNIT,ABS RESIN (C,D,E,F,G,H,I)	3
34	LSKM1086	LCD CASE B,ABS RESIN	3
35	LSXY0765	LCD SHIELD CASE UNIT	3
36	LSXY0766	PANEL HOLDER UNIT	3
37	LSGL0422	LEAD LIGHT PANEL	3
38	LSGL0404	DIFFUSION SHEET	3
39	LSGL0423	REFLECT SHEET	3
40	LSGL0406	BEF SHEET	3
41	LSGL0421	BEF SHEET A	3
42	L5BDDYH00014	LIQUID CRYSTAL DISPLAY PANEL (A,C,F,H)	3
42	L5BDDYH00015	LIQUID CRYSTAL DISPLAY PANEL (B,D,E,G,I)	3
51	LSKM1111	FRONT CASE,ABS RESIN (A,B,C,D,E)	2
51	LSKM1112	FRONT CASE,ABS RESIN (F,G,H,I)	2
52	LSYK1557	TOP UNIT (A,B)	1
52	LSYK1562	TOP UNIT (C,D)	1
52	LSYK1585	TOP UNIT (E)	1
52	LSYK1559	TOP UNIT (F,G)	1
52	LSYK1556	TOP UNIT (H,I)	1
53	LSKF0609	FRONT JACK COVER	2
54	LSMD0814	FRONT COVER HINGE	2
55	LSMF0370	FRONT HINGE COVER PIECE	2
56	LSFL0200	FOUR EYES LENS (C,D,E,F,G,H,I)	2
57	LSGQ0138	LIGHT SHIELD SHEET	2
58	LSMZ0397	MIC BOTH SIDE TAPE A	2
59	LSMZ0398	MIC BOTH SIDE TAPE B	2
60	LSQL1830	FRONT JACK LABEL (A,B,C,D,E)	2
60	LSQL1816	FRONT JACK LABEL (F,G,H,I)	2
61	LSXN0034	LENS UNIT (A,B)	4
61	LSXN0035	LENS UNIT (C,D,E,F,G,H,I)	4
62	LSDW0058-K	FILTER HOLDER (A,B)	4
63	VDL1390-B	OPTICAL LOW PASS FILTER	4
64	VMX3282	FILTER RUBBER	4
65	L6HA66NB0001	ZOOM MOTOR UNIT (A,B)	4
65	L6HA66NB0003	ZOOM MOTOR UNIT (C,D,E,F,G,H,I)	4
66	L6HA66NB0002	FOCUS MOTOR UNIT (A,B)	4
66	L6HA66NB0004	FOCUS MOTOR UNIT (C,D,E,F,G,H,I)	4
71	LSKM1106	L-BOTTOM CASE,ABS RESIN	2
72	LSGQ0139	HAND STRAP	2
73	LSMA0793	STRAP ANGLE R	2
75	LSSC0757	L EARTH PLATE	2
76	LSMA0794	STRAP ANGLE F	2
77	LSGQ0149	STRAP SHAFT	2
101	VPF1129	POLY BAG	7
103	LSPG1938	PACKING CASE,PAPER (A)	7
103	LSPG1928	PACKING CASE,PAPER (B)	7
103	LSPG1939	PACKING CASE,PAPER (C)	7
103	LSPG1927	PACKING CASE,PAPER (D)	7
103	LSPG1991	PACKING CASE,PAPER (E)	7
103	LSPG1923	PACKING CASE,PAPER (F)	7
103	LSPG1926	PACKING CASE,PAPER (G)	7
103	LSPG1940	PACKING CASE,PAPER (H)	7
103	LSPG1895	PACKING CASE,PAPER (I)	7
104	LSTG1302	DVC PACKING (A,C,F,H)	7
104	LSTG1303	DVC PACKING (B,D,E,G,I)	7
105	LSFC0018	SHOULDER BELT	7
106	LSYF0552	LENS CAP UNIT	7
108	K2GJ2DC00011	DV CABLE W/PLUG	7
109	K2CA2CA00025	AC CORD W/PLUG	7 ⚠
110	DE-974FA	AC ADAPTOR UNIT	7 ⚠
112	K2KC4CB00020	AUDIO VIDEO CABLE W/PLUG	7

Ref. No.	Part No.	Part Name & Description	Remarks
113	N2QAEC000012	INFRARED REMOTE CONTROL UNIT (H,I)	7
115	K1HA05CD0010	USB CABLE W/PLUG (B,D,F,G,H,I)	7
119	LSFT0619	CD-ROM (F,G)	7
119	LSFT0618	CD-ROM (H,I)	7
120	LSQT0886-A	INSTRUCTION BOOK (A,C,F,H)	7
120	LSQT0887-A	INSTRUCTION BOOK (B,D,G,I)	7
120	LSQT0953-A	INSTRUCTION BOOK (E)	7
123	N9ZZ00000027	SECURITY TAG (A,C,F,H)	7
124	N9ZZ00000158	SECURITY TAG(CHECKPOINT SYS) (A,C,F,H)	7
201	VXA8014	MAIN CHASSIS UNIT	6 MKE
202	VEG1663-M	CYLINDER UNIT	6 MKE
203	VXA7932-1B	CASSETTE UP UNIT	6 SPC
207	VXR0403	T-REEL MOTOR	6 SPC
208	VMB3766	CASSETTE UP SPRING	6 SPC
413	LSHD0051	SCREW,STEEL	1
419	XQN2+BJ5FN	SCREW,STEEL	3
433	XQN16+BJ6FN	SCREW,STEEL	1,2
450	XQN16+B4FN	SCREW,STEEL	1,2,5
455	XQN16+B3FN	SCREW,STEEL	3
457	XQN2+B5FN	SCREW,STEEL	3
524	XQN16+BJ4FNK	SCREW,STEEL	5
533	XQN16+BJ4FN	SCREW,STEEL	1,2,4
534	VHD1757	SCREW,STEEL	6 MKE
535	XQN14+B2FN	SCREW,STEEL	6 MKE
536	XQN16+AJ4FN	SCREW,STEEL	4
538	XQN14+BJ4FN	SCREW,STEEL	4
541	XQN16+B2FN	SCREW,STEEL	1,2
542	LSHD0106	SCREW,STEEL	2,3
543	XQN16+BJ4FJK	SCREW,STEEL	2
701	LSEK0628	ELECTRIC CONDENSER MICROPHONE UNIT	2
702	LSMG0136	MIC DAMPER	2
703	LSJB8304	FRONT FLEXIBLE PRINTED CIRCUIT	2
704	B3RAB0000024	INFRARED RECEIVER (F,G,H,I)	2
705	LSSC0753	FRONT EARTH PLATE A	2
708	LSSC0754	MIC SHIELD CASE	2
711	K1NA09E00063	SD UNIT	2
E10	LSEP8295A1	MAIN C.B.A. (A,B)	1 RTL
E10	LSEP8295B1	MAIN C.B.A. (C,D,E,F,G)	1 RTL
E10	LSEP8295C1	MAIN C.B.A. (H,I)	1 RTL
E20	LSEP8296A1	FRONT C.B.A. (A,B)	2 RTL
E20	LSEP8296B1	FRONT C.B.A. (C,D,E)	2 RTL
E20	LSEP8296D1	FRONT C.B.A. (F,G,H,I)	2 RTL
E30	LSEP8297A1	JACK C.B.A. (A,B,C,D,E)	2 RTL
E30	LSEP8297B1	JACK C.B.A. (F,G)	2 RTL
E30	LSEP8297C1	JACK C.B.A. (H,I)	2 RTL
E40	LSEP8298P1	LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A. NR	3
E50	LSEQ0750	CCD C.B.A. NR (A,B)	4
E50	LSEQ0752	CCD C.B.A. NR (C,D,E,F,G,H,I)	4

SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
	VFM3010EDS	COLOR BAR STANDARD TAPE	SPC
	VFK1451	DVC HEAD CLEANING TAPE	SPC
	LSVQ0028	PLIER FOR NON ZIF CONNECTOR	
	LSUQ0050	GREASE	
	LSUA0019	EXTENSION CABLE 8P	
	LSUA0016	EXTENSION CABLE 10P	
	VUVS0007	EXTENSION CABLE 12P	
	VFKW0124A	EXTENSION CABLE 14P	
	LSUA0017	EXTENSION CABLE 18P	
	VUVS0012	EXTENSION CABLE 22P	
	VFK1164LBX1	LIGHT BOX	SPC
	VFK1164TCM02	INFINITY LENS (WITH FOCUS CHART)	SPC
	VFK1164TAR58	ATTACHMENT RING (58mm)	SPC
	VFK1164TAR55	ATTACHMENT RING (55mm)	SPC
	VFK1164TAR52	ATTACHMENT RING (52mm)	SPC
	VFK1164TAR49	ATTACHMENT RING (49mm)	SPC
	VFK1164TAR46	ATTACHMENT RING (46mm)	SPC
	VFK1164TAR43	ATTACHMENT RING (43mm)	SPC
	VFK1164TAR37	ATTACHMENT RING (37mm)	SPC
	VFK1164TAR3A	ATTACHMENT RING (30.5mm)	SPC
	VFK1164TAR27	ATTACHMENT RING (27mm)	SPC
	VFK1164TFCT2	COLOR CONVERSION FILTER (C14)	SPC
	VFK1164TFWC2	WHITE CHART	SPC
	VFK1164TFCB2	COLOR BAR CHART	SPC
	VFK1164TFGS2	GRAY SCALE CHART	SPC
	VFK1899	POST HEIGHT ADJUSTMENT FIXTURE	SPC
	LSUP0007	INTERFACE BOARD FOR ELECTRICAL ADJUSTMENT	
	VFK1898	CONNECTION ADAPTOR	SPC
	VFK1897	EVR CONNECTOR BOARD	SPC
	VFK1309	EVR CONNECTOR BOARD	SPC
	VFK1317	FLAT CABLE 30P	SPC

13.3. ELECTRICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
---------	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

Definition of Parts supplier:

1. **All parts are supplied from MKI.**

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSEP8295A1	MAIN C.B.A. (A,B)	E.S.D. RTL
E10	LSEP8295B1	MAIN C.B.A. (C,D,E,F,G)	E.S.D. RTL
E10	LSEP8295C1	MAIN C.B.A. (H,I)	E.S.D. RTL
E20	LSEP8296A1	FRONT C.B.A. (A,B)	RTL
E20	LSEP8296B1	FRONT C.B.A. (C,D,E)	RTL
E20	LSEP8296D1	FRONT C.B.A. (F,G,H,I)	RTL
E30	LSEP8297A1	JACK C.B.A. (A,B,C,D,E)	RTL
E30	LSEP8297B1	JACK C.B.A. (F,G)	RTL
E30	LSEP8297C1	JACK C.B.A. (H,I)	RTL
E40	LSEP8298P1	LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A. NR	
E50	LSEQ0750	CCD C.B.A. NR (A,B)	
E50	LSEQ0752	CCD C.B.A. NR (C,D,E,F,G,H,I)	

13.3.1. MAIN C.B.A

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
---------	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC301	C0CBCBB00005	IC, LINEAR	
IC302	AN12073A-VB	IC, LOGIC	E.S.D.
IC303	C1AB00002039	IC, LOGIC	E.S.D.
IC401	C1AB00001932	IC, LOGIC (H,I)	E.S.D. CSP
IC701	C1AB00001877	IC, LINEAR	
IC1001	C0DBAZZ00064	IC, LINEAR	
IC1002	C0CBABD00060	IC, LINEAR	
IC1003	C0CBCAC00214	IC, LINEAR	
IC1004	C0CBCAC00207	IC, LINEAR	
IC2001	C1AB00002122	IC, LINEAR	
or IC2001	C1AB00001752	IC, LINEAR	
IC2002	C0ABAA000046	IC, LINEAR	
IC3001	C1AB00002028	IC, LOGIC	E.S.D. CSP
IC3101	C1AB00001894	IC, LOGIC	E.S.D.
IC3201	C1AB00001695	IC, LOGIC	E.S.D. CSP
IC5001	AN3732FJMEFV	IC, LINEAR	
IC6001	LSUC0028	IC, 32BIT MICROCONTROLLER (A,B,C,D,E,F,G) *Refer to "IC6001 REPLACEMENT NOTE" in SERVICE NOTES.	E.S.D. CSP
IC6001	LSUC0025	IC, 32BIT MICROCONTROLLER (H,I) *Refer to "IC6001 REPLACEMENT NOTE" in SERVICE NOTES.	E.S.D. CSP
IC6002	C3EBGG000013	IC, 16K EEP ROM	E.S.D.
or IC6002	C3EBGG000016	IC, 16K EEP ROM	E.S.D.
IC6005	C1ZBZ0002602	IC, CMOS GATE ARRAYS	E.S.D.
IC6008	C0EBE0000240	IC, LOGIC	E.S.D.
IC8001	AN12531A-VB	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q401	UNR921TJ08	TRANSISTOR SI NPN CHIP (H,I)	
or Q401	B1GBCFLN0003	TRANSISTOR SI NPN CHIP (H,I)	
Q701	B1ADMB000004	TRANSISTOR SI PNP CHIP	
Q1001	UNR9112J08	TRANSISTOR SI PNP CHIP	
or Q1001	B1GDCFLL0019	TRANSISTOR SI PNP CHIP	
or Q1001	B1GDCFLL0020	TRANSISTOR SI PNP CHIP	
Q1004	B1ZBZ0000038	TRANSISTOR SI	
Q1005	B1ZBZ0000038	TRANSISTOR SI	
Q1006	B1ZBZ0000038	TRANSISTOR SI	
Q1007	B1DFCG000011	TRANSISTOR FET	
Q1008	B1ZBZ0000040	TRANSISTOR SI	
Q1009	B1ZBZ0000040	TRANSISTOR SI	
Q1016	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q1016	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1018	2SB1462J08	TRANSISTOR SI PNP CHIP	
or Q1018	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q1019	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q1019	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q1019	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q1022	2SD2216J08	TRANSISTOR SI NPN CHIP	
or Q1022	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1024	2SD2216J08	TRANSISTOR SI NPN CHIP	
or Q1024	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1025	2SD2216J08	TRANSISTOR SI NPN CHIP	
or Q1025	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1026	XP0431400L	TRANSISTOR SI NPN CHIP	
Q1040	UNR9114J08	TRANSISTOR SI PNP CHIP	
or Q1040	B1GDCFJN0017	TRANSISTOR SI PNP CHIP	
Q1041	UNR921TJ08	TRANSISTOR SI NPN CHIP	
or Q1041	B1GBCFLN0003	TRANSISTOR SI NPN CHIP	
Q1042	UNR911TJ08	TRANSISTOR SI PNP CHIP	
or Q1042	B1GDCFLM0005	TRANSISTOR SI PNP CHIP	
Q1043	2SD2216J08	TRANSISTOR SI NPN CHIP	
or Q1043	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1045	2SB1462J08	TRANSISTOR SI PNP CHIP	
or Q1045	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q1046	UNR921TJ08	TRANSISTOR SI NPN CHIP	
or Q1046	B1GBCFLN0003	TRANSISTOR SI NPN CHIP	
Q1047	UNR9213J08	TRANSISTOR SI NPN CHIP	
or Q1047	B1GBCFNN0029	TRANSISTOR SI NPN CHIP	
or Q1047	B1GBCFNN0030	TRANSISTOR SI NPN CHIP	
Q3001	UNR9111J08	TRANSISTOR SI PNP CHIP (A,B,C,D,E,F,G)	
or Q3001	B1GDCFJJ0027	TRANSISTOR SI PNP CHIP (A,B,C,D,E,F,G)	
or Q3001	B1GDCFJJ0028	TRANSISTOR SI PNP CHIP (A,B,C,D,E,F,G)	
Q6002	UNR9213J08	TRANSISTOR SI NPN CHIP	
or Q6002	B1GBCFNN0029	TRANSISTOR SI NPN CHIP	
or Q6002	B1GBCFNN0030	TRANSISTOR SI NPN CHIP	
Q6003	2SD1820A0L	TRANSISTOR SI NPN CHIP	
Q6004	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6004	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q6008	UNR921TJ08	TRANSISTOR SI NPN CHIP	
or Q6008	B1GBCFLN0003	TRANSISTOR SI NPN CHIP	
Q6009	UNR921EJ08	TRANSISTOR SI NPN CHIP	
or Q6009	B1GBCFNL0010	TRANSISTOR SI NPN CHIP	
Q6010	2SB09700RL	TRANSISTOR SI PNP CHIP	
Q6011	UNR9115J08	TRANSISTOR SI PNP CHIP	
or Q6011	B1GDCFJA0015	TRANSISTOR SI PNP CHIP	
or Q6011	B1GDCFJA0016	TRANSISTOR SI PNP CHIP	
Q6012	UNR9115J08	TRANSISTOR SI PNP CHIP	
or Q6012	B1GDCFJA0015	TRANSISTOR SI PNP CHIP	
or Q6012	B1GDCFJA0016	TRANSISTOR SI PNP CHIP	
Q6013	UNR9115J08	TRANSISTOR SI PNP CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
or Q6013	B1GDCFJA0015	TRANSISTOR SI PNP CHIP	
or Q6013	B1GDCFJA0016	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D301	MA2S111008	DIODE SI CHIP	
or D301	B0ACCK000003	DIODE SI CHIP	
or D301	MA2S11100L	DIODE SI CHIP	
D1002	MA2S111008	DIODE SI CHIP	
or D1002	B0ACCK000003	DIODE SI CHIP	
or D1002	MA2S11100L	DIODE SI CHIP	
D1003	MA2S111008	DIODE SI CHIP	
or D1003	B0ACCK000003	DIODE SI CHIP	
or D1003	MA2S11100L	DIODE SI CHIP	
D1006	MAZ80750ML	DIODE SI CHIP	
D1007	MAZ80620HL	DIODE ZENER CHIP 6.2V	
D1009	MA2S111008	DIODE SI CHIP	
or D1009	B0ACCK000003	DIODE SI CHIP	
or D1009	MA2S11100L	DIODE SI CHIP	
D1010	MAZ81000HL	DIODE ZENER	
D1011	MAZ81300ML	DIODE ZENER CHIP 13V	
D1012	MA2S111008	DIODE SI CHIP	
or D1012	B0ACCK000003	DIODE SI CHIP	
or D1012	MA2S11100L	DIODE SI CHIP	
D1101	B0BC01200021	DIODE ZENER CHIP 12V	
D2001	MA3S13300L	DIODE SI CHIP	
D6005	MA2S728008	DIODE SI CHIP	
or D6005	B0JCDD000002	DIODE SI CHIP	
or D6005	MA2S72800L	DIODE SI CHIP	
D6006	MA3J14700L	DIODE SI CHIP	
D6007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
or D6007	D0GBR00JA019	MGF CHIP 1/16W 0	
or D6007	D0GBR00Z0002	MGF CHIP 1/16W 0	
or D6007	D0YBR0000002	MGF CHIP 1/16W 0	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R302	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R303	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R304	ERJ2GEJ181X	MGF CHIP 1/16W 180	
R305	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R311	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R315	F1G1H102A457	C CHIP 50V 1000PF	
R401	ERJ2RKD270X	MGF CHIP 1/16W 27 (A,B,C,D,E,F,G)	
R402	ERJ2RKD270X	MGF CHIP 1/16W 27 (A,B,C,D,E,F,G)	
R404	ERJ2GE0R00X	MGF CHIP 1/16W 0 (H,I)	
R405	ERJ2GE0R00X	MGF CHIP 1/16W 0 (H,I)	
R407	ERJ2GE0R00X	MGF CHIP 1/16W 0 (H,I)	
R408	D0GA562JA015	MGF CHIP 1/16W 5.6K (H,I)	
R409	D0GA562JA015	MGF CHIP 1/16W 5.6K (H,I)	
R410	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R411	ERJ2GE0R00X	MGF CHIP 1/16W 0 (H,I)	
R413	ERJ2GE0R00X	MGF CHIP 1/16W 0 (H,I)	
R414	ERJ2GEJ473X	MGF CHIP 1/16W 47K (H,I)	
R415	ERJ2GEJ473X	MGF CHIP 1/16W 47K (H,I)	
R702	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R704	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R705	D0GA102JA015	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R706	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R707	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R708	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R709	ERJ2GEJ184X	MGF CHIP 1/16W 180K	
R710	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R711	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R712	ERJ2GEJ334X	MGF CHIP 1/16W 330K	
R713	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R714	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R715	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R716	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R718	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R719	ERJ2GEJ334X	MGF CHIP 1/16W 330K	
R721	ERJ2GEJ684X	MGF CHIP 1/16W 680K	
R722	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R723	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R724	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R726	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R1002	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1004	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1005	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R1006	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1007	ERA3YED822V	MGF CHIP 1/16W 8.2K	
R1008	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R1009	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1011	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1012	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1013	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1014	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R1015	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1016	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1017	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1024	D0HA912ZA001	MGF CHIP 1/16W 9.1K	
R1027	D0HA302ZA001	MGF CHIP 1/16W 3K	
R1028	D0HA330ZA002	MGF CHIP 1/16W 33	
R1030	D0HA392ZA001	MGF CHIP 1/16W 3.9K	
R1033	D0HA272ZA001	MGF CHIP 1/16W 2.7K	
R1034	D0HA271ZA001	MGF CHIP 1/16W 270	
R1035	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1036	D0HA122ZA001	MGF CHIP 1/10W 1.2K	
R1037	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1038	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1039	D0HA472ZA001	MGF CHIP 1/16W 4.7K	
R1040	D0HA221ZA001	MGF CHIP 1/16W 220	
R1042	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1043	D0HA273ZA001	MGF CHIP 1/16W 27K	
R1046	D0HA302ZA001	MGF CHIP 1/16W 3K	
R1047	D0HA820ZA002	MGF CHIP 1/16W 82	
R1051	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1052	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1053	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1054	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1055	ERJ2GEJ824X	MGF CHIP 1/16W 820K	
R1056	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R1057	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1058	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1059	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1060	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R1061	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1082	ERJ2RHD103X	MGF CHIP 1/16W 10K	
R1086	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R1087	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R1091	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R1092	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1094	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1095	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1096	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R2001	ERJ8GEYJR27V	MGF CHIP 1/8W 0.27	
R2002	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2003	ERJ8GEYJR27V	MGF CHIP 1/8W 0.27	
R2004	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R2005	D0GA242JA015	MGF CHIP 1/8W 2.4K	
R2006	ERJ2GEJ153X	MGF CHIP 1/16W 15K	

Ref. No.	Part No.	Part Name & Description	Remarks
R2007	ERJ2RHD273X	MGF CHIP 1/16W 27K	
R2008	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2009	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R2010	D0GA102JA015	MGF CHIP 1/16W 1K	
R2011	ERJ2GEJ823X	MGF CHIP 1/16W 82K	
R2012	D0GA102JA015	MGF CHIP 1/16W 1K	
R2013	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R2014	D0GA102JA015	MGF CHIP 1/16W 1K	
R2015	D0GA102JA015	MGF CHIP 1/16W 1K	
R2016	D0GA102JA015	MGF CHIP 1/16W 1K	
R2017	D0GA102JA015	MGF CHIP 1/16W 1K	
R2018	ERJ8GEYJR68V	MGF CHIP 1/8W 0.68	
R2019	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R2020	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R2021	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R2024	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2025	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R2026	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R2027	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R2028	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2029	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2030	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2031	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2032	D0GA102JA015	MGF CHIP 1/16W 1K	
R2033	D0GA102JA015	MGF CHIP 1/16W 1K	
R2034	D0GA102JA015	MGF CHIP 1/16W 1K	
R2035	D0GA102JA015	MGF CHIP 1/16W 1K	
R2038	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R2039	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R3006	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R3007	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R3008	ERJ2RHD123X	MGF CHIP 1/16W 12K	
R3009	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3010	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3011	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3012	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3013	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3014	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3015	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3016	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3017	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3018	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3019	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3029	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3030	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3031	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3032	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3033	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R3034	ERJ2RHD103X	MGF CHIP 1/16W 10K	
R3035	ERJ2RHD103X	MGF CHIP 1/16W 10K	
R3036	ERJ2GEJ181X	MGF CHIP 1/16W 180 (A,B,C,D,E,F,G)	
R3037	ERJ2GEJ105X	MGF CHIP 1/16W 1M (A,B,C,D,E,F,G)	
R3039	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R3040	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3043	D0GA152JA015	MGF CHIP 1/16W 1.5K (A,B,C,D,E,F,G)	
R3044	ERJ2GEJ473X	MGF CHIP 1/16W 47K (H,I)	
R3045	ERJ2GEJ473X	MGF CHIP 1/16W 47K (H,I)	
R3079	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3080	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3081	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3082	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3083	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3084	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3085	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3087	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3088	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3101	ERJ2GEJ680X	MGF CHIP 1/16W 68 (H,I)	
R3102	ERJ2RKD680X	MGF CHIP 1/16W 68 (H,I)	
R3103	ERJ2RKD680X	MGF CHIP 1/16W 68	
R3104	ERJ2GEJ103X	MGF CHIP 1/16W 10K (H,I)	
R3112	ERJ2GE0R00X	MGF CHIP 1/16W 0 (H,I)	

Ref. No.	Part No.	Part Name & Description	Remarks
R3114	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3115	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R3201	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R3202	D0GA182JA015	MGF CHIP 1/16W 1.8K	
R3203	ERJ2GEJ271X	MGF CHIP 1/16W 270	
R3204	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R3205	D0GA272JA015	MGF CHIP 1/16W 2.7K	
R3206	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R3207	D0GA222JA015	MGF CHIP 1/16W 2.2K	
R3208	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R3209	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3210	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3211	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3212	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3218	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3225	D0GA102JA015	MGF CHIP 1/16W 1K	
R3226	D0GA102JA015	MGF CHIP 1/16W 1K	
R3227	D0GA102JA015	MGF CHIP 1/16W 1K	
R3229	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3230	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3231	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3232	D0GA102JA015	MGF CHIP 1/16W 1K	
R3233	D0GA102JA015	MGF CHIP 1/16W 1K	
R3234	D0GA102JA015	MGF CHIP 1/16W 1K	
R3901	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3902	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3903	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3904	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3905	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3906	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3907	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3908	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R4501	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R4504	ERJ2GEJ561X	MGF CHIP 1/16W 560	
R4505	ERJ2GEJ561X	MGF CHIP 1/16W 560	
R5005	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5006	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5007	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5008	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5009	D0GA182JA015	MGF CHIP 1/16W 1.8K	
R5010	D0GA682JA015	MGF CHIP 1/16W 6.8K	
R5011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6001	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R6002	D0GA102JA015	MGF CHIP 1/16W 1K	
R6003	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6004	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6005	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6006	D0GA392JA015	MGF CHIP 1/16W 3.9K	
R6007	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6008	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6009	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6010	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6014	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6015	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6016	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R6017	D0GA472JA015	MGF CHIP 1/16W 4.7K	
R6018	D0GA102JA015	MGF CHIP 1/16W 1K	
R6019	ERJ3GEY0R00V	MGF CHIP 1/16W 0 *Refer to "IC6001 REPLACEMENT NOTE" in SERVICE NOTES.	
R6020	D0GA102JA015	MGF CHIP 1/16W 1K	
R6021	D0GA102JA015	MGF CHIP 1/16W 1K	
R6022	ERJ3GEY0R00V	MGF CHIP 1/16W 0 *Refer to "IC6001 REPLACEMENT NOTE" in SERVICE NOTES.	
R6023	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6024	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R6025	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R6026	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R6028	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R6029	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6030	D0GA332JA015	MGF CHIP 1/16W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6031	ERJ3GEY0R00V	MGF CHIP 1/16W 0 *Refer to "IC6001 REPLACEMENT NOTE" in SERVICE NOTES.	
R6032	ERJ3GEY0R00V	MGF CHIP 1/16W 0 *Refer to "IC6001 REPLACEMENT NOTE" in SERVICE NOTES.	
R6033	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6034	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6035	D0GA152JA015	MGF CHIP 1/16W 1.5K	
R6036	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R6037	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6038	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6039	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6040	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6043	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6044	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6046	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6047	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6048	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6050	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6051	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6052	D0GA102JA015	MGF CHIP 1/16W 1K	
R6054	D0GA102JA015	MGF CHIP 1/16W 1K	
R6056	D0GA102JA015	MGF CHIP 1/16W 1K	
R6057	D0GA102JA015	MGF CHIP 1/16W 1K	
R6058	D0GA102JA015	MGF CHIP 1/16W 1K	
R6059	D0GA102JA015	MGF CHIP 1/16W 1K	
R6061	D0GA102JA015	MGF CHIP 1/16W 1K	
R6063	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6064	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6065	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6066	ERJ2GEJ821X	MGF CHIP 1/16W 820	
R6067	D0GA152JA015	MGF CHIP 1/16W 1.5K	
R6068	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6069	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6070	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6071	ERJ2RHD683X	MGF CHIP 1/16W 68K	
R6072	ERJ2RHD223X	MGF CHIP 1/16W 22K	
R6073	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6074	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6075	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6076	D0GA102JA015	MGF CHIP 1/16W 1K	
R6077	D0GA102JA015	MGF CHIP 1/16W 1K	
R6078	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6079	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6080	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6081	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6082	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6083	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6084	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6085	ERJ2GEJ394X	MGF CHIP 1/16W 390K	
R6086	D0GA822JA015	MGF CHIP 1/16W 8.2K	
R6087	D0GA222JA015	MGF CHIP 1/16W 2.2K	
R6088	D0GA222JA015	MGF CHIP 1/16W 2.2K	
R6089	D0GA822JA015	MGF CHIP 1/16W 8.2K	
R6090	ERJ2RHD103X	MGF CHIP 1/16W 10K	
R6091	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6092	D0GA102JA015	MGF CHIP 1/16W 1K	
R6093	D0GA102JA015	MGF CHIP 1/16W 1K	
R6094	D0GA102JA015	MGF CHIP 1/16W 1K	
R6095	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6096	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R6097	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6098	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6099	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6100	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6101	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6102	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6103	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6104	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6105	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6106	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6107	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R6108	ERJ3GEYJ330V	MGF CHIP 1/16W 33	

Ref. No.	Part No.	Part Name & Description	Remarks
R6109	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R6110	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6111	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6112	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6113	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6114	D0GA332JA015	MGF CHIP 1/16W 3.3K	
R6115	D0GA222JA015	MGF CHIP 1/16W 2.2K	
R6116	ERJ2GEJ470X	MGF CHIP 1/16W 47	
R6117	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R6127	ERJ2GEJ124X	MGF CHIP 1/16W 120K (C,D,E,F,G)	
R6127	ERJ2GEJ473X	MGF CHIP 1/16W 47K (H,I)	
R6128	D0GA102JA015	MGF CHIP 1/16W 1K	
R6131	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6132	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6133	ERJ2RHD103X	MGF CHIP 1/16W 10K	
R6134	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6135	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6137	D0GA102JA015	MGF CHIP 1/16W 1K	
R8001	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8002	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8003	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8004	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R8005	D0GA682JA015	MGF CHIP 1/16W 6.8K	
R8006	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8007	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8011	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R8012	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8013	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8014	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8015	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R8016	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R8017	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A,B)	
R8018	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A,B)	
R8019	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A,B)	
R8020	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A,B)	
R8021	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A,B)	
R8022	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A,B)	
R8023	ERJ2GE0R00X	MGF CHIP 1/16W 0 (C,D,E,F,G,H,I)	
R8024	ERJ2GE0R00X	MGF CHIP 1/16W 0 (C,D,E,F,G,H,I)	
R8025	ERJ2GE0R00X	MGF CHIP 1/16W 0 (C,D,E,F,G,H,I)	
R8026	ERJ2GE0R00X	MGF CHIP 1/16W 0 (C,D,E,F,G,H,I)	
R8027	ERJ2GE0R00X	MGF CHIP 1/16W 0 (C,D,E,F,G,H,I)	
R8028	ERJ2GE0R00X	MGF CHIP 1/16W 0 (C,D,E,F,G,H,I)	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C302	F1J0J4750004	C CHIP 6.3V 4.7UF	
C303	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C304	ECJ0EC1H120J	C CHIP 50V 12PF	
C305	ECJ0EC1H240J	C CHIP 50V 24PF	
C306	F1G0J105A001	C CHIP 6.3V 1UF	
C307	F1G0J105A001	C CHIP 6.3V 1UF	
C308	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C309	F1G0J105A001	C CHIP 6.3V 1UF	
C310	F1H1C104A041	C CHIP 16V 0.1UF	
C311	ECJ1VB1A224K	C CHIP 10V 0.22UF	
C312	F1G0J105A001	C CHIP 6.3V 1UF	
C313	F1K1A1060017	C CHIP 10V 10UF	
C314	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C315	F1H1C104A041	C CHIP 16V 0.1UF	
C316	F1K1A1060017	C CHIP 10V 10UF	
C317	ECJ3YF1C475Z	C CHIP 16V 4.7UF	
C318	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C319	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C320	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C321	F1K1A1060017	C CHIP 10V 10UF	
C322	ECJ0EB1A104K	C CHIP 10V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C407	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C409	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C410	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C411	F3F0J106A032	TANTALUM CHIP 6.3V 10UF (H,I)	
C412	F3F0J106A032	TANTALUM CHIP 6.3V 10UF (H,I)	
C413	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C415	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C416	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C417	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C418	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C419	ECJ0EB1A104K	C CHIP 10V 0.1UF (H,I)	
C701	F1H1A105A025	C CHIP 10V 1UF	
C702	F1H1A105A025	C CHIP 10V 1UF	
C703	ECJ1VB1A224K	C CHIP 10V 0.22UF	
C704	F1H1A105A025	C CHIP 10V 1UF	
C705	F3F1A226A026	TANTALUM CHIP 10V 22UF	
C708	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C709	F1G1C103A046	C CHIP 16V 0.01UF	
C710	F1H1A105A025	C CHIP 10V 1UF	
C711	F1G1H102A457	C CHIP 50V 1000PF	
C712	ECJ0EB1A473K	C CHIP 10V 0.047UF	
C713	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C714	F1G1C103A046	C CHIP 16V 0.01UF	
C715	ECJ0EB1H471K	C CHIP 50V 470PF	
C716	ECJ0EB1E101K	C CHIP 25V 100PF	
C717	ECJ1VF1A105Z	C CHIP 10V 1UF	
C718	F1G1E4720004	C CHIP 25V 4700PF	
C720	F1G1C103A046	C CHIP 16V 0.01UF	
C721	ECJ1VF1A105Z	C CHIP 10V 1UF	
C722	F1H1A105A025	C CHIP 10V 1UF	
C1001	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C1003	ECJ0EC1H101J	C CHIP 50V 100PF	
C1004	F1H1E223A029	C CHIP 25V 0.022UF	
C1005	F1H1C104A041	C CHIP 16V 0.1UF	
C1006	F1H1C104A041	C CHIP 16V 0.1UF	
C1007	F1J1C1050011	C CHIP 16V 1UF	
C1008	F1J1C1050011	C CHIP 16V 1UF	
C1009	ECJ0EB1A473K	C CHIP 10V 0.047UF	
C1011	F1G1E4720004	C CHIP 25V 4700PF	
C1012	F1G1C103A046	C CHIP 16V 0.01UF	
C1014	ECJ0EB1C223K	C CHIP 16V 0.022UF	
C1017	F1G1E4720004	C CHIP 25V 4700PF	
C1018	ECJ0EB1C153K	C CHIP 16V 0.015UF	
C1020	ECJ3YB1C475K	C CHIP 16V 4.7UF	
C1031	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1032	F1L1C106A011	C CHIP 16V 10UF	
C1034	F1J0J4750004	C CHIP 6.3V 4.7UF	
C1036	F1J0J4750004	C CHIP 6.3V 4.7UF	
C1037	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C1038	F1J0J4750004	C CHIP 6.3V 4.7UF	
C1039	F1J1C1050011	C CHIP 16V 1UF	
C1040	F1J1C1050011	C CHIP 16V 1UF	
C1041	F1J1C1050011	C CHIP 16V 1UF	
C1042	F1J1C1050011	C CHIP 16V 1UF	
C1043	F1G1H681A401	C CHIP 50V 680PF	
C1046	ECJ0EB1H152K	C CHIP 50V 1500PF	
C1048	F1G1H222A457	C CHIP 50V 2200PF	
C1050	ECJ0EB1H152K	C CHIP 50V 1500PF	
C1051	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1053	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1056	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1057	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1058	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1060	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C1061	F1H1A105A025	C CHIP 10V 1UF	
C1062	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1063	F1H1A105A025	C CHIP 10V 1UF	
C1064	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1067	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1068	F1H1A105A025	C CHIP 10V 1UF	
C1069	F3E0J106A001	TANTALUM CHIP 6.3V 10UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C1070	F1H1A105A025	C CHIP 10V 1UF	
C1071	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C1072	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C1073	F1J1C1050011	C CHIP 16V 1UF	
C1074	F1H1A105A025	C CHIP 10V 1UF	
C1075	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1080	F3E0J106A001	TANTALUM CHIP 6.3V 10UF	
C1088	F3E0J106A001	TANTALUM CHIP 6.3V 10UF	
C1090	F1H1C104A041	C CHIP 16V 0.1UF	
C1091	F1H1A105A025	C CHIP 10V 1UF	
C1092	F1H1C104A041	C CHIP 16V 0.1UF	
C1093	ECJ1VB1C474K	C CHIP 16V 0.47UF	
C1101	ECJ0EF1H103Z	C CHIP 50V 0.01UF	
C1102	ECJ0EF1H103Z	C CHIP 50V 0.01UF	
C2001	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2002	F1J1A475A023	C CHIP 10V 4.7UF	
C2003	F1H1A105A025	C CHIP 10V 1UF	
C2004	F1G1C103A046	C CHIP 16V 0.01UF	
C2005	F1G1E4720004	C CHIP 25V 4700PF	
C2006	F1G1E4720004	C CHIP 25V 4700PF	
C2007	F1H1A105A025	C CHIP 10V 1UF	
C2008	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2009	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2010	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2011	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2012	F1H1A105A025	C CHIP 10V 1UF	
C2013	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2014	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2015	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2016	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2017	F1H1A105A025	C CHIP 10V 1UF	
C2018	F1H1C104A041	C CHIP 16V 0.1UF	
C2021	ECJ0EC1H101J	C CHIP 50V 100PF	
C2022	F1H1A105A025	C CHIP 10V 1UF	
C2023	F1H1A105A025	C CHIP 10V 1UF	
C2024	ECJ0EC1H470J	C CHIP 50V 47PF	
C2025	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2026	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3001	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C3003	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3005	F1G1C103A046	C CHIP 16V 0.01UF	
C3006	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C3007	F1G1C103A046	C CHIP 16V 0.01UF	
C3008	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C3009	F1G1C103A046	C CHIP 16V 0.01UF	
C3010	F1H1A105A025	C CHIP 10V 1UF	
C3011	F1G1C103A046	C CHIP 16V 0.01UF	
C3012	F1H1A105A025	C CHIP 10V 1UF	
C3013	F1H1A105A025	C CHIP 10V 1UF	
C3014	F1G1C103A046	C CHIP 16V 0.01UF	
C3015	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C3016	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3017	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3020	ECJ0EC1H220J	C CHIP 50V 22PF	
C3021	ECJ0EC1H220J	C CHIP 50V 22PF	
C3022	F1G1C103A046	C CHIP 16V 0.01UF	
C3023	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3024	ECJ0EC1H221J	C CHIP 50V 220PF	
C3025	F1H1A105A025	C CHIP 10V 1UF	
C3026	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3027	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3028	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3029	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3030	F1G1C103A046	C CHIP 16V 0.01UF	
C3031	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3032	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3033	F1G1C103A046	C CHIP 16V 0.01UF	
C3034	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3035	F1G1C103A046	C CHIP 16V 0.01UF	
C3036	F1G1C103A046	C CHIP 16V 0.01UF	
C3037	F1H1A105A025	C CHIP 10V 1UF	
C3038	F1G1C103A046	C CHIP 16V 0.01UF	
C3039	ECJ0EB1A104K	C CHIP 10V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3040	ECJ0EC1H150J	C CHIP 50V 15PF (A,B,C,D,E,F,G)	
C3041	ECJ0EC1H150J	C CHIP 50V 15PF (A,B,C,D,E,F,G)	
C3043	F1G1C103A046	C CHIP 16V 0.01UF	
C3044	F1G1C103A046	C CHIP 16V 0.01UF	
C3046	F1G1C103A046	C CHIP 16V 0.01UF	
C3047	F1J0J4750004	C CHIP 6.3V 4.7UF	
C3048	F1H1A105A025	C CHIP 10V 1UF	
C3101	F1G1C103A046	C CHIP 16V 0.01UF	
C3102	F1H1A105A025	C CHIP 10V 1UF	
C3103	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C3104	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3105	F1H1C104A041	C CHIP 16V 0.1UF	
C3106	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C3107	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3108	F1H1A105A025	C CHIP 10V 1UF (H,I)	
C3109	F3G0J107A017	TANTALUM CHIP 6.3V 100UF (H,I)	
C3110	F1G1C103A046	C CHIP 16V 0.01UF (H,I)	
C3111	F3G0J107A017	TANTALUM CHIP 6.3V 100UF	
C3112	F1H1A105A025	C CHIP 10V 1UF	
C3113	F1G1C103A046	C CHIP 16V 0.01UF	
C3201	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3202	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3203	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C3204	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3206	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3207	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3209	F1J0J4750004	C CHIP 6.3V 4.7UF	
C3210	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3211	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3212	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3214	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3215	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3216	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3217	F1G1C103A046	C CHIP 16V 0.01UF	
C3218	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3219	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3224	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3226	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C3227	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C4502	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C4504	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C4505	F3F0G226A030	TANTALUM CHIP 4V 22UF	
C4509	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C4510	F1G1C103A046	C CHIP 16V 0.01UF	
C4511	F1H1A105A025	C CHIP 10V 1UF	
C4512	F1H1A105A025	C CHIP 10V 1UF	
C4513	ECJ1VB1A224K	C CHIP 10V 0.22UF	
C4518	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C4519	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C4520	F1J1A2250007	C CHIP 10V 2.2UF	
C5001	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5002	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C5004	F1G1H681A401	C CHIP 50V 680PF	
C5005	F1G1C103A046	C CHIP 16V 0.01UF	
C5007	F1G1C103A046	C CHIP 16V 0.01UF	
C5009	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C5011	F1G1C103A046	C CHIP 16V 0.01UF	
C5012	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C5013	ECJ0EC1H120J	C CHIP 50V 12PF	
C5014	ECJ0EC1H120J	C CHIP 50V 12PF	
C5015	ECJ0EC1H120J	C CHIP 50V 12PF	
C5016	ECJ0EC1H120J	C CHIP 50V 12PF	
C6001	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C6002	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C6003	F1H1A105A025	C CHIP 10V 1UF	
C6007	F1G1C103A046	C CHIP 16V 0.01UF	
C6010	F1H1C104A041	C CHIP 16V 0.1UF	
C6011	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C6012	F1G1C103A046	C CHIP 16V 0.01UF	
C6015	F1H1A105A025	C CHIP 10V 1UF	
C6017	F1H1C104A041	C CHIP 16V 0.1UF	
C6019	F1H1C104A041	C CHIP 16V 0.1UF	
C6020	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C6021	F1G1C103A046	C CHIP 16V 0.01UF	
C6023	F1G1C103A046	C CHIP 16V 0.01UF	
C6024	ECJ0EC1H220J	C CHIP 50V 22PF	
C6025	F1G1C103A046	C CHIP 16V 0.01UF	
C6026	F1G1C103A046	C CHIP 16V 0.01UF	
C6027	F1G1C103A046	C CHIP 16V 0.01UF	
C6028	F1G1C103A046	C CHIP 16V 0.01UF	
C6029	F1G1C103A046	C CHIP 16V 0.01UF	
C6031	ECJ0EC1H220J	C CHIP 50V 22PF	
C6032	F1G1C103A046	C CHIP 16V 0.01UF	
C6033	F1G1C103A046	C CHIP 16V 0.01UF	
C6035	F1G1C103A046	C CHIP 16V 0.01UF	
C6036	F1G1C103A046	C CHIP 16V 0.01UF	
C6037	F1G1C103A046	C CHIP 16V 0.01UF	
C6039	F1G1C103A046	C CHIP 16V 0.01UF	
C6040	F1G1C103A046	C CHIP 16V 0.01UF	
C6041	F1G1C103A046	C CHIP 16V 0.01UF	
C6042	F1G1C103A046	C CHIP 16V 0.01UF	
C6044	ECJ0EB1E101K	C CHIP 25V 100PF	
C8001	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C8002	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C8003	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C8004	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C8005	F1H1C104A041	C CHIP 16V 0.1UF	
C8006	F1H1C104A041	C CHIP 16V 0.1UF	
C8007	F1H1C104A041	C CHIP 16V 0.1UF	
C8008	F1G1C103A046	C CHIP 16V 0.01UF	
C8009	F1H1C104A041	C CHIP 16V 0.1UF	
C8010	F1H1A105A025	C CHIP 10V 1UF	
C8011	F1J1C1050011	C CHIP 16V 1UF	
C8012	F1J1C1050011	C CHIP 16V 1UF	
C8013	F1J1A2250007	C CHIP 10V 2.2UF	
C8014	F1J1C1050011	C CHIP 16V 1UF	
C8015	F1H1C104A041	C CHIP 16V 0.1UF (C,D,E,F,G,H,I)	
C8016	F1H1C104A041	C CHIP 16V 0.1UF	
C8017	F1H1C104A041	C CHIP 16V 0.1UF (C,D,E,F,G,H,I)	
C8018	ECJ0EC1H121J	C CHIP 50V 120PF	
C8019	ECJ0EC1H121J	C CHIP 50V 120PF	
C8020	ECJ0EC1H121J	C CHIP 50V 120PF	

FILTERS

Ref. No.	Part No.	Part Name & Description	Remarks
FL401	F1H0J1050022	C CHIP 6.3V 1UF (H,I)	
FL402	F1H0J1050022	C CHIP 6.3V 1UF (H,I)	
FL403	F1H0J1050022	C CHIP 6.3V 1UF (H,I)	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L301	G1C100K00020	COIL CHIP 10UH	
L302	G1C100KA0055	COIL CHIP 10UH	
L303	G1C100KA0055	COIL CHIP 10UH	
L1001	J0JHC0000018	COIL CHIP 42UH	
L1002	G1C220ZA0050	COIL CHIP 22UH	
L1003	G1C220ZA0050	COIL CHIP 22UH	
L1004	G1C220ZA0050	COIL CHIP 22UH	
L1005	G1C330ZA0050	COIL CHIP 33UH	
L1006	G1C680Z00005	COIL CHIP 68UH	
L1007	G1C4R7MA0031	COIL CHIP 4.7UH	
L1009	G1C4R7MA0031	COIL CHIP 4.7UH	
L1010	G1C100K00020	COIL CHIP 10UH	
L1011	G1C100K00020	COIL CHIP 10UH	
L1012	G1C4R7MA0031	COIL CHIP 4.7UH	
L1013	G1C4R7MA0031	COIL CHIP 4.7UH	
L1014	G1C100K00020	COIL CHIP 10UH	
L1015	G1C100K00020	COIL CHIP 10UH	
L1016	G1C4R7MA0031	COIL CHIP 4.7UH	
L1017	G1C4R7MA0031	COIL CHIP 4.7UH	
L1019	G1C470JA0041	COIL CHIP 47UH	
L1020	G1C470JA0041	COIL CHIP 47UH	

Ref. No.	Part No.	Part Name & Description	Remarks
L1021	G1C470JA0041	COIL CHIP 47UH	
L1022	G1C4R7MA0031	COIL CHIP 4.7UH	
L1023	J0JHC0000018	COIL CHIP 42UH	
L1101	J0JGC0000034	FERRITE BEAD CHIP	
L1102	J0JGC0000034	FERRITE BEAD CHIP	
L3001	J0JBC0000027	FERRITE BEAD CHIP	
L3002	G1C100KA0055	COIL CHIP 10UH	
L3003	G1C100KA0055	COIL CHIP 10UH	
L3004	G1C100KA0055	COIL CHIP 10UH	
L3005	J0JBC0000027	FERRITE BEAD CHIP	
L3006	J0JBC0000027	FERRITE BEAD CHIP	
L3008	J0JBC0000027	FERRITE BEAD CHIP	
L3011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3013	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3015	G1C100KA0055	COIL CHIP 10UH	
L3016	J0JBC0000027	FERRITE BEAD CHIP	
L3101	G1C100M00010	COIL CHIP 10UH	
L3102	G1C100M00010	COIL CHIP 10UH	
L3201	J0JBC0000014	BEAD INDUCTOR	
L3202	G1C100M00010	COIL CHIP 10UH	
L3203	G1C100M00010	COIL CHIP 10UH	
L4501	J0JBC0000027	FERRITE BEAD CHIP	
L4502	G1C470MA0031	COIL CHIP 47UH	
L4503	G1C100M00010	COIL CHIP 10UH	
L4504	G1C100M00010	COIL CHIP 10UH	
L5001	G1C101KA0031	COIL CHIP 100UH	
L5002	G1C100M00010	COIL CHIP 10UH	
L6002	G1C100KA0031	COIL CHIP 10UH	
L6003	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L8001	G1C100M00010	COIL CHIP 10UH	
L8002	G1C470KA0055	COIL CHIP 47UH	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X301	H0J360500010	CRYSTAL OSCILLATOR	
X3001	H0J245500064	CRYSTAL OSCILLATOR	
X3002	H0J480000002	CRYSTAL OSCILLATOR (A,B,C,D,E,F,G)	
X6001	H0J135500031	CRYSTAL OSCILLATOR	
X6002	H0A327200106	CRYSTAL OSCILLATOR	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
B1	K1KA40BA0052	BOARD TO BOARD 40P	
B2	K1KA20A00280	BOARD TO BOARD 20P	
P1	K1KA09AA0051	CONNECTOR 9P	

FPC CONNECTORS

Ref. No.	Part No.	Part Name & Description	Remarks
FP1	K1MN08BA0089	CONNECTOR 8P	
FP2	K1MN18BA0117	CONNECTOR 18P	
FP3	K1MN10BA0075	CONNECTOR 10P	
FP4	K1MN18BA0117	CONNECTOR 18P	
FP5	K1MN08BA0088	CONNECTOR 8P	
FP6	K1MN12A00075	CONNECTOR 12P	
FP7	K1MN06A00065	CONNECTOR 6P	
FP8	K1MN30AA0018	CONNECTOR 30P	
FP9	K1MN22A00065	CONNECTOR 22P (C,D,E,F,G,H,I)	
FP10	K1MN22BA0063	CONNECTOR 22P	
FP11	K1MN16A00077	CONNECTOR 16P (A,B)	
FP301	K1MN14A00088	CONNECTOR 14P	
FP701	K1MN22A00065	CONNECTOR 22P	

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T1001	G5DYA0000094	TRANSFORMER SWITCHING	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
IP1	K5H2022A0008	FUSE CHIP 32V 2A	⚠
IP2	ERBSE2R00U	CIUCUIT PROTECTOR CHIP 32V 2A	⚠

13.3.2. FRONT C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
---------	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC4801	C0ABBB000262	IC, LINEAR	
or IC4801	C0ABBB000105	IC, LINEAR	
		TRANSISTORS	
Q4301	2SD1819ARL	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
Q4302	2SD1819ARL	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
Q4303	2SD1819ARL	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
Q4304	2SD1819ARL	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
Q4305	2SB1218ARL	TRANSISTOR SI PNP CHIP (C,D,E,F,G,H,I)	
Q4306	UNR9112J08	TRANSISTOR SI PNP CHIP (C,D,E,F,G,H,I)	
or Q4306	B1GDCFLL0019	TRANSISTOR SI PNP CHIP (C,D,E,F,G,H,I)	
or Q4306	B1GDCFLL0020	TRANSISTOR SI PNP CHIP (C,D,E,F,G,H,I)	
Q4307	UNR9213J08	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
or Q4307	B1GBCFNN0029	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
or Q4307	B1GBCFNN0030	TRANSISTOR SI NPN CHIP (C,D,E,F,G,H,I)	
Q4801	2SD2216J08	TRANSISTOR SI NPN CHIP	
or Q4801	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q6501	2SD10300SL	TRANSISTOR SI NPN CHIP	
Q6502	2SD2216J08	TRANSISTOR SI NPN CHIP	
or Q6502	B1ABCF000104	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D4301	B3AFB0000056	LIGHT EMITTING DIODE (C,D,E,F,G,H,I)	
D4302	B3AFB0000056	LIGHT EMITTING DIODE (C,D,E,F,G,H,I)	
D4303	B3AFB0000056	LIGHT EMITTING DIODE (C,D,E,F,G,H,I)	
D4304	B3AFB0000056	LIGHT EMITTING DIODE (C,D,E,F,G,H,I)	
D6503	MA3S132D0L	DIODE SI CHIP	
D6504	B3GA00000041	LIGHT EMITTING DIODE	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R4301	D0HB470ZA003	MGF CHIP 1/16W 47 (C,D,E,F,G,H,I)	
R4302	D0HB470ZA003	MGF CHIP 1/16W 47 (C,D,E,F,G,H,I)	
R4303	D0HB470ZA003	MGF CHIP 1/16W 47 (C,D,E,F,G,H,I)	
R4304	D0HB470ZA003	MGF CHIP 1/16W 47 (C,D,E,F,G,H,I)	
R4305	D0HB222ZA002	MGF CHIP 1/16W 2.2K (C,D,E,F,G,H,I)	
R4306	D0HB333ZA002	MGF CHIP 1/16W 33K (C,D,E,F,G,H,I)	
R4307	D0HB822ZA002	MGF CHIP 1/16W 8.2K (C,D,E,F,G,H,I)	
R4802	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4803	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4804	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4805	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R4806	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4807	D0HB392ZA002	MGF CHIP 1/16W 3.9K	
R4808	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R4809	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4810	D0HB392ZA002	MGF CHIP 1/16W 3.9K	
R6501	ERJ3GEYJ560V	MGF CHIP 1/16W 56 (F,G,H,I)	
R6502	ERJ3GEYJ683V	MGF CHIP 1/16W 68K (F,G,H,I)	
R6503	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6504	ERJ3GEYJ106V	MGF CHIP 1/16W 10M	
R6505	ERJ3GEYJ225V	MGF CHIP 1/16W 2.2M	
R6506	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R6507	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R6508	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6509	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C4301	F1H1A105A025	C CHIP 10V 1UF (C,D,E,F,G,H,I)	
C4801	F1H1A105A025	C CHIP 10V 1UF	
C4802	F1H1A105A025	C CHIP 10V 1UF	
C4803	F3F1C475A001	TANTALUM CHIP 16V 4.7UF	
C4804	ECJ1VB1H822K	C CHIP 50V 8200PF	
C4805	ECJ1VB1C273K	C CHIP 16V 0.027UF	
C4806	ECJ1VB1C273K	C CHIP 16V 0.027UF	
C4808	ECJ1VB1C273K	C CHIP 16V 0.027UF	
C4809	ECJ1VB1H822K	C CHIP 50V 8200PF	
C4810	ECJ1VB1C273K	C CHIP 16V 0.027UF	
C4812	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C6501	F3F0J106A032	TANTALUM CHIP 6.3V 10UF (F,G,H,I)	
C6502	F1H1C104A008	C CHIP 16V 0.1UF (F,G,H,I)	
C6503	ECJ1VB0J474K	C CHIP 6.3V 0.47UF	
C6504	F1H1C104A041	C CHIP 16V 0.1UF	

FPC CONNECTORS

Ref. No.	Part No.	Part Name & Description	Remarks
FP6501	K1MN12A00075	CONNECTOR 12P	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
701	LSEK0628	ELECTRIC CONDENSER MICROPHONE UNIT	
702	LSMG0136	MIC DAMPER	
703	LSJB8304	FRONT FLEXIBLE PRINTED CIRCUIT	
704	B3RAB0000024	INFRARED RECEIVER (F,G,H,I)	
705	LSSC0753	FRONT EARTH PLATE A	
708	LSSC0754	MIC SHIELD CASE	

13.3.3. JACK C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-GS19P-S	A
PV-GS19PC-S	B
PV-GS31P-S	C
PV-GS31PC-S	D
PV-GS32P-S	E
---------	F
PV-GS34PC-S	G
PV-GS35P-S	H
PV-GS35PC-S	I

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q4001	2SD2216J08	TRANSISTOR SI NPN CHIP (F,G,H,I)	
or Q4001	B1ABCF000104	TRANSISTOR SI NPN CHIP (F,G,H,I)	
Q4002	2SB1462J08	TRANSISTOR SI PNP CHIP (F,G,H,I)	
or Q4002	B1ADCF000072	TRANSISTOR SI PNP CHIP (F,G,H,I)	
Q4003	2SD2216J08	TRANSISTOR SI NPN CHIP (F,G,H,I)	
or Q4003	B1ABCF000104	TRANSISTOR SI NPN CHIP (F,G,H,I)	
Q4004	2SB1462J08	TRANSISTOR SI PNP CHIP (F,G,H,I)	
or Q4004	B1ADCF000072	TRANSISTOR SI PNP CHIP (F,G,H,I)	
Q4005	2SD2216J08	TRANSISTOR SI NPN CHIP (F,G,H,I)	
or Q4005	B1ABCF000104	TRANSISTOR SI NPN CHIP (F,G,H,I)	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D4001	B0BC6R200019	DIODE ZENER CHIP 6.2V (F,G,H,I)	
D7008	MAZM068H0L	DIODE ZENER CHIP 6.8V (H,I)	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R4001	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K (F,G,H,I)	
R4002	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K (F,G,H,I)	
R4003	ERJ3GEYJ151V	MGF CHIP 1/16W 150 (F,G,H,I)	
R4004	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K (F,G,H,I)	
R4005	ERJ3GEYJ103V	MGF CHIP 1/16W 10K (F,G,H,I)	
R4006	D0HB154ZA002	MGF CHIP 1/16W 150K (F,G,H,I)	
R4007	D0HB563ZA002	MGF CHIP 1/16W 56K (F,G,H,I)	
R4008	ERJ3GEYJ471V	MGF CHIP 1/16W 470 (F,G,H,I)	
R4009	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K (F,G,H,I)	
R4010	ERJ3GEYJ151V	MGF CHIP 1/16W 150 (F,G,H,I)	
R4011	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K (F,G,H,I)	
R4012	ERJ3GEYJ103V	MGF CHIP 1/16W 10K (F,G,H,I)	

Ref. No.	Part No.	Part Name & Description	Remarks
R4013	D0HB154ZA002	MGF CHIP 1/16W 150K (F,G,H,I)	
R4014	D0HB563ZA002	MGF CHIP 1/16W 56K (F,G,H,I)	
R4015	ERJ3GEYJ471V	MGF CHIP 1/16W 470 (F,G,H,I)	
R4016	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (F,G,H,I)	
R4017	ERJ3GEYJ102V	MGF CHIP 1/16W 1K (F,G,H,I)	
R6301	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6302	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6303	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6304	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6305	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6306	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6307	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6308	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6309	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6310	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6311	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6312	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6313	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6314	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6315	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6316	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R7001	ERJ3GEYJ102V	MGF CHIP 1/16W 1K (F,G)	
R7001	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K (H,I)	
R7001	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A,B,C,D,E)	
R7002	ERJ3GEYJ331V	MGF CHIP 1/16W 330 (H,I)	
R7004	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A,B,C,D,E,F,G)	
R7005	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A,B,C,D,E,F,G)	
R7006	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R7007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C4001	ECJ1VB1H103K	C CHIP 50V 0.01UF (F,G,H,I)	
C4002	F3F0J226A032	TANTALUM CHIP 6.3V 22UF (F,G,H,I)	
C4003	F1H1A105A025	C CHIP 10V 1UF (F,G,H,I)	
C4004	F3F0G226A030	TANTALUM CHIP 4V 22UF (F,G,H,I)	
C4006	F1H1A105A025	C CHIP 10V 1UF (F,G,H,I)	
C4007	F1H1H332A219	C CHIP 50V 3300PF (F,G,H,I)	
C4008	F1H1A105A025	C CHIP 10V 1UF (F,G,H,I)	
C4009	F3F0G226A030	TANTALUM CHIP 4V 22UF (F,G,H,I)	
C4011	F1H1A105A025	C CHIP 10V 1UF (F,G,H,I)	
C4012	F1H1H332A219	C CHIP 50V 3300PF (F,G,H,I)	
C6301	F3F0J226A032	TANTALUM CHIP 6.3V 22UF	
C6302	F1H1C104A041	C CHIP 16V 0.1UF	
C6303	F1H1C104A041	C CHIP 16V 0.1UF	
C6304	ECJ1VC1H050C	C CHIP 50V 5PF	
C6305	ECJ1VC1H050C	C CHIP 50V 5PF	
C6306	ECJ1VC1H050C	C CHIP 50V 5PF	
C6307	ECJ1VC1H050C	C CHIP 50V 5PF	
C6308	ECJ1VC1H050C	C CHIP 50V 5PF	
C7001	F1H1H472A219	C CHIP 50V 4700PF	
C7002	F1H1H472A219	C CHIP 50V 4700PF	
C7005	F1H1A105A025	C CHIP 10V 1UF	

FILTERS

Ref. No.	Part No.	Part Name & Description	Remarks
FL7001	J0MAB0000116	COIL OTHER FILTERS FOR EM (H,I)	
FL7002	J0MAB0000116	COIL OTHER FILTERS FOR EM	
FL7003	J0MAB0000116	COIL OTHER FILTERS FOR EM	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L4001	J0JBC0000036	FERRITE CORE (F,G,H,I)	
L4002	J0JBC0000036	FERRITE CORE (F,G,H,I)	
L6301	G1C100M00010	COIL CHIP 10UH	
L6302	ERJ3GEY0R00X	METAL GLAZE RESISTOR,1/16W 0	
L7001	J0JBC0000027	FERRITE BEAD CHIP	
L7002	J0JBC0000027	FERRITE BEAD CHIP	
L7003	J0JBC0000027	FERRITE BEAD CHIP	
L7008	J0JBC0000027	FERRITE BEAD CHIP (H,I)	
L7009	J0JBC0000027	FERRITE BEAD CHIP (H,I)	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
B7001	K1KB40AA0021	BOARD TO BOARD 40P	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW7001	ESE22MH22	SWITCH	

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK4001	K2HC104E0009	MIC JACK SOCKET (F,G,H,I)	
JK7001	K2HC107B0003	A/V JACK SOCKET	
JK7002	K2YZ04000021	MINI DV JACK SOCKET	
JK7003	K2HZ105E0009	USB MINI JACK SOCKET	
JK7004	K2YZ06000022	S-VIDEO JACK SOCKET (H,I)	

BATTERY

Ref. No.	Part No.	Part Name & Description	Remarks
BT7001	ML-621S/F9DE	BATTERY	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
711	K1NA09E00063	SD UNIT	

13.3.4. LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A. NR

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q8101	2SD1819ARL	TRANSISTOR SI NPN CHIP	
Q8102	2SD1819ARL	TRANSISTOR SI NPN CHIP	
Q8103	2SD1819ARL	TRANSISTOR SI NPN CHIP	
Q8104	2SD1819ARL	TRANSISTOR SI NPN CHIP	
Q8105	XP0450100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8106	XP0440100L	TRANSISTOR COMPLX CMP SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D8101	LSEP8298P1	LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A.	
D8103	LSEP8298P1	LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A.	
D8105	LSEP8298P1	LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A.	
D8107	LSEP8298P1	LIQUID CRYSTAL DISPLAY BACKLIGHT C.B.A.	
D8109	MA2S728008	DIODE SI CHIP	
or D8109	B0JCDD000002	DIODE SI CHIP	
or D8109	MA2S72800L	DIODE SI CHIP	
D8110	MA2S728008	DIODE SI CHIP	
or D8110	B0JCDD000002	DIODE SI CHIP	
or D8110	MA2S72800L	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R8101	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

Ref. No.	Part No.	Part Name & Description	Remarks
R8102	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8103	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8104	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8105	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8106	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8107	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8108	D0HB470ZA003	MGF CHIP 1/16W 47	
R8109	D0HB470ZA003	MGF CHIP 1/16W 47	
R8110	D0HB470ZA003	MGF CHIP 1/16W 47	
R8111	D0HB470ZA003	MGF CHIP 1/16W 47	
R8112	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8113	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8114	ERA3YKD104V	MGF CHIP 1/16W 22	
R8115	ERA3YED123V	MGF CHIP 1/16W 12K	
R8116	ERA3YKD184V	MGF CHIP 1/16W 1K	
R8117	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R8118	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R8119	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R8120	ERJ3GEYJ113V	MGF CHIP 1/16W 11K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C8101	ECJ1VC1H471J	C CHIP 50V 470PF	
C8102	ECJ1VC1H471J	C CHIP 50V 470PF	
C8103	ECJ1VC1H471J	C CHIP 50V 470PF	
C8104	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8105	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8106	F1H1C104A041	C CHIP 16V 0.1UF	
C8107	ECJ3YB1C475K	C CHIP 16V 4.7UF	
C8108	F1J1C1050011	C CHIP 16V 1UF	
C8109	F1J1C1050011	C CHIP 16V 1UF	
C8110	F1J1C1050011	C CHIP 16V 1UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L8101	G1C100M00010	COIL CHIP 10UH	
L8102	G1C100M00010	COIL CHIP 10UH	
L8103	G1C100M00010	COIL CHIP 10UH	
L8104	G1C100M00010	COIL CHIP 10UH	

FPC CONNECTORS

Ref. No.	Part No.	Part Name & Description	Remarks
FP8101	K1MN26BA0059	CONNECTOR 26P	
FP8102	K1MN24BA0059	CONNECTOR 24P	